THE NEW YORK STATE

CONSERVATIONIST

April-May 1953

STATE OF NEW YORK CONSERVATION DEPARTMENT

TRILLIUM

RED AND WHITE IN WASHINGTON COUNTY

THE NEW YORK STATE

CONSERVATIONIST

MOSTLY ABOUT FROGS

We admit it: our only academic training in the field of Biology involved the dissection (or rather demolition) of a miserable pickled frog. And if there had been any way out of it we would have passed up this experience too, but we were told in Freshman Year at college that we would take this frog and find out what made him tick, or else we would take Chemistry, or else. So (after carefully weighing the advantages of leaving college) we took The Frog and Biology 10.

We don't mind admitting that we really took our frog. In fact we took several, because we wore out the first one during the opening sessions at the laboratory and had to call for replacements. And we don't mind admitting either that we still don't know what makes The Frog tick, because we adopted the very sensible attitude that since all the specimens served up to us had stopped ticking long ago (all had been steeped in formaldahyde for years), there was nothing we could do for them or with them that would make much difference. But of course the college held the whip hand, so we dutifully ruined frog after frog, and then came the Final Examination to see how much we had learned from all this.

Not much, it turned out. When we heard that the marks were posted we asked our roommate to find out what the score was, and in due time he reported that the score was very poor, in fact we had come perilously close to flunking The Frog, in fact we had passed him with just a 60 minus. We doubt if any of our readers has had a closer squeak.

In spite of having passed him, The Frog continues to haunt us from time to time, and we can't help but speculate as to what we really learned from him. Certainly it wasn't Biology—that 60 minus was a gift. But on the positive side we would like to think that we acquired a sense of our own limitations and also a sense of the importance of those who don't have such limitations. Maybe the most important thing we got out of Biology 10 was the realization that we would never be any good at frogs, but that there were some people who could really do a job on them; that if we ever wanted to know about frogs, those were the people to go to (instead of pretending that we knew something about them ourself); that frogs are important, and so are the people who really know about them.

The Frog, of course, is merely a symbol for the whole field of Biology. Sound Biology, and sound biologists, are the foundation for sound Conservation, just as sound physics and sound physicists are the basis for progressive development and application of the principles of atomic energy. But in these days of miscellaneous and self-appointed experts on everything from Forest Preserve to Foreign Policy, it seems we often lose sight of such facts.
—Editor

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Permission is granted to reprint any text from this magazine provided proper credit is given to the New York State Conservation Department and to this magazine.

The Conservationist is an official publicaion of the N.Y.S. Conservation Dept., published every two months at the Department's offices, Arcade Bldg., Albany, N. Y. No advertising accepted. Subscription rate $1.00 per year. Entered as Second Class matter July 24, 1948 at the Post Office at Albany, N. Y. under Act of March 3, 1879. Printed in U. S. A.

Springtime in New York—

ANOTHER ANGLE

WHAT GOES ON IN OUR ADIRONDACK DEER YARDS

WHEN this magazine reaches you, you will be thinking that spring is here. For most of the State, it is. But in an average year the end of March and the first weeks in April are times of deep winter in the central Adirondack region, times when the snow is deepest, when the deer are "yarded up," when a lot of deer die. For many years now, some of us who work for the Conservation Department have been going in to these deer yards each spring, to see how the deer wintered. Although it's Opening Day for the trout fisherman on the Beaverkill, it may be Closing Day for a lot of animals in the Adirondack deer yards. Something to think about.

A deer yard is any area of land that deer choose as their home during the cold winter season.

What makes it a deer yard? It is a deer yard only because deer choose to be there during the winter.

Is the same area used for many years? There are some deer wintering areas in the Adirondacks which it is known that deer have used since 1890 or earlier; we know of two locations that were deer yards during the early 1800's and still are used today.

Do deer always use the same acreage of land in a yard each winter? Not always. If the winter is mild they travel over a wide area. If the winter is very severe they congregate on much smaller areas where they find adequate shelter.

Why do deer choose these areas? This question is much more difficult to answer. After visiting deer wintering areas in many places, one realizes there is no simple or exact set of con-

ditions which attract deer to a particular area. However, by watching their actions as mild fall weather changes to severe winter weather, one discovers that deer choose a wintering area by experimenting. They try first one area, then another. After trying various locations each winter, they finally discover the place which provides them with the protection they want. If this protection is not uniform over the entire area, and the winter becomes more severe, the deer in the poorer shelter zone work into the best shelter. The degree of deer concentration in the best shelter zone depends on its acreage, the size of the deer population using it, and the severity of the winter.

So a "deer yard" is the winter home of deer. In general it is warmer, protected from wind, and the snow is not as deep as in other nearby places. Quite often there are localities near the "yard" where deer find space for basking in the sun. A study of many deer wintering areas suggests some, but not always all, of the following requirements:

1. The topography of the land provides escape from cold winter winds.
2. Coniferous trees provide protection from cold winds, shelter from accumulating snow, or the least depth of snow.
3. Topography of the land and distribution of trees and shrubs provide good sunning places.

Not all of these conditions need be equally good in all wintering areas. The deer choose the area where some combination of these affords the protection they want and need. A man who has limited his travels to Adirondack deer yards would find it difficult to believe deer would yard (concentrate) in a hardwood forest where the land has only a slight roll. But what can the deer do if there are no conifers within ten or maybe 50 miles? They choose a location where a change in elevation provides the greatest possible protection from the elements of winter weather.

In contrast, an Adirondack deer yard looks like a wonderful place to winter. There—under the conifers that provide good shelter, where there is little snow on the ground, where the mountains and conifers provide shelter from wind, and the open hardwoods or grasslands or lakes or bogs make places where the sun can shine directly on the deer. And then you go elsewhere and find deer concentrated in a valley or gulch. Maybe there are some hardwoods, maybe there are some conifers, but here it is the hill side—deflecting the wind and exposed to the sun—that makes the shelter. And then you go to the Southern Tier and along an east-west hill, cut by a few valleys, you see anywhere from ten to 800 deer along a mile or two of hillside. Such a place, with the nearby wood lots, is a wintering area.

So deer seek the least depth of snow, most protection from cold winds, greatest exposure to the sun—in other words, greatest physical comfort. So they concentrate.

The reaction of deer to winter weather is to find temporary escape or relief from unfavorable, uncomfortable elements. In seeking this temporary relief they apparently do not avoid wintering areas where they experienced hunger and weakness during previous winters. They do not avoid areas where their associates of previous winters may have died after suffering from hunger and weakness for many weeks. Food, therefore, appears to be a secondary consideration in choosing a winter home; in fact, after studying the habits of deer, it seems that the availability of a winter supply of food is not considered at all. If deer could contemplate their winter prospects of having adequate food, surely they would eat out the food supply in the coldest, draftiest, most uncomfortable localities first, and leave the food in the best shelter areas against the time when it would be most needed later on. The habits of deer, however, indicate just the reverse—when winter strikes they go to the best shelter first, and stay there as long as the weather is severe. When the food is no longer available in this best shelter area they try to forage in the more exposed sites. If, as is often the case, the winter weather is too uncomfortable in the poorer shelter area where food is available, they refuse to venture into more inclement conditions in order to get the food that is within their reach. As a consequence, they stay in the best shelter area, eat stuff with little or no food value, lose weight, lose strength—and if the inclement elements persist too long, they die.

Nevertheless, in winter, when the temperature drops, the winds are raw, and the snow is deep, deer concentrate in the deer yards. In this limited area they travel in search of food, and exercise to keep warm. They travel through the snow depths that require the least expenditure of energy for the greatest distance gained. Their tracks, therefore, go from the base on one conifer to the next, or across areas where the snow is the least deep. Other deer follow the same route and by continually travelling it, a trail is established. Other trails are formed and soon they interlace to form a net-work. This is characteristic of the winter travelling habits of deer in an area where the population greatly exceeds the capacity of the winter range to provide all the food the deer require. Unfortunately, a dense pattern of heavily used deer trails all too frequently is an index of the possibility of malnutrition among the deer living in the area. This is in contrast to the more conventional conception of these trails—namely, that they are an aid in feeding. Trail counts versus track counts in winter are used as criteria for determining the foraging ability of

A general view of an Adirondack "deer yard." Note the location of conifers in relation to hardwoods, and sheltered position of yard

During a severe winter, deer yard in areas where they find protection from cold winds, deep snow and other elements of winter weather. Their trails wind from the base of one conifer to another, wherever the least depth of snow is found. A lone deer in search of food bounds off a trail and into the deep snow. It has first choice of the food it locates. Other deer follow his tracks and in doing so they push open a trough through the snow. They pack down the bottom of the trough and form a hard packed trail. But by now the browse which contained nutrition is all gone—overbrowsed. It's too cold to lie down and wait out the winter. Exercise helps keep the deer warm, so they walk back and forth along the foodless paths. They grow hungry and weaken. Some try to break off the trail in hopes of finding food. In this weakened condition they become trapped in the deep snow. So trapped and weakened, many die.

deer. When individual deer tracks outnumber deer trails and group tracks, it is an indication that deer are foraging enough to maintain their physical condition. Conversely, when deer trails and group tracks equal or outnumber individual deer tracks, their foraging range has become so restricted that they are unable to secure adequate nourishment. Where this latter condition exists the interlaced pattern of deer trails becomes very extensive, and when you walk across one of these areas you sometimes encounter as many as two to five deer trails for every individual deer track. This severe winter condition, which coincides with the deer getting inadequate nutrition, creates what is generally referred to as a deer yard.

There is another habit of deer during the winter that helps create and maintain these hard packed trails. If unmolested they will walk a short distance, stand around for awhile, walk some more, and repeat this pattern many times perhaps before they lie down. Many hours of each day (and even each night on some occasions) are spent walking and standing. During very cold days and nights when the temperature drops below 20 degrees below zero, most deer spend most of the time lazily, aimlessly walking along these trails. This walking is done apparently because it is too cold for the deer to bed down and still stay warm. As a consequence they are moving about, a little exercise apparently being necessary to overcome the chilling effects of the very cold temperatures.

So what is a deer yard? The descriptions above indicate that one's concept of a deer yard depends on the relative density of the deer concentrations the individual is acquainted with. The most conspicuous deer yard is an area so densely criss-crossed with hard-packed deer trails that a man can walk for hours in a small yard (300 acres or less) or days in a large area (perhaps as much as 14 square miles) and seldom walk in the same trail. In such yards, however, most of the deer are not able to secure adequate nutrition to prevent their debilitation, and many may (and often do) die from inadequate food. There are other areas where the deer population density is much less and where the deer secure more adequate food to maintain their physical condition. Such areas are merely concentration areas, and the trails are fewer and the individual deer tracks generally outnumber the trails.

Is such an area a deer yard? Think back over what you have read and give it a name of your own choosing.

—C. W. Severinghaus

Adirondack Deer

A NEW PROPOSAL FOR THEIR MANAGEMENT IN WILDERNESS AREAS

Areas of high mortality in solid black. Areas of low mortality (one deer or less per square mile) outlined

THIS brief statement proposes a possible solution to the deer management problem in the Adirondacks. It is placed before readers of THE CONSERVATIONIST to provoke discussion and comment, and indicates the trend in our present thinking on this problem.

The map presented here shows the distribution of known areas of winter concentrations of deer where many die from inadequate food during average to severe winters. You will note that these area are frequent in the wilderness tracts of the central Adirondacks where hunting pressure is very low. For the most part these tracts are difficult or impossible of access by car.

There have been several articles in THE CONSERVATIONIST which have described the critical condition of forage plants in starvation areas of the central Adirondacks. Further, the effects of a bare subsistence winter diet on the growth and development of deer have been documented and discussed publicly on numerous occasions. The facts inescapably point to the conclusion that deer comprising the herds that occupy the areas mapped here are grossly underharvested, and that this situation has prevailed for years. We have learned also that where deer are adequately reduced in numbers they respond quickly in two dramatic ways: The bucks exhibit better antler development, greater weight and stature (particularly noticeable in the younger age classes), and the does increase their fawn production. These responses are believed the result of reduction in competition for high quality foods, with consequent elevation in the physical condition of the deer remaining. Other factors of a social nature may be involved but will not be discussed here.

In managing any species of game, it is biologically sound to crop the annual surplus of animals where they have reached the maximum number that can be supported in their home territory. In the northern ranges of the whitetailed deer, the bottleneck in range capacity occurs on their wintering grounds.

Another management objective for the whitetail should be to so crop the herd as to leave an adult sex ratio of about one buck to two does. A hunter's choice season does not accomplish this. This objective of the 1-2 ratio is in the nature on an ideal, because it yields a greater annual crop of fawns in relation to number of breeding adults. When the herd is annually and adequately harvested on this basis, a greater economy of use of winter forage results. To put it in another way, a smaller breeding herd carried over the winter in better physical condition results in a proportionately if not actually greater annual increment of fawns, with far less pressure on the winter food supply. Natural rehabilitation of a depleted winter range is more likely under these conditions.

If we accept this objective of deer management for the Adirondacks, we must hold in abeyance the idea of opening the northern region to hunter's choice seasons. This type of season tends to yield a 1-1 ratio of bucks to does, and is not compatible with the objective of attaining the proportionately greater annual yield of deer from a winter forage supply already depleted. This means then, that our deer herds should be harvested at the rate of 2 bucks to 1 doe.

In areas of the Adirondack Periphery which are easy of access, the annual take by hunters, legal and illegal, appears adequate. No change in the deer season in these areas is recommended at this time. However it is advisable that attention be focused on the wilderness tracts which contain the winter food bottlenecks for deer. We propose the following solution:

1. Delineate wilderness tracts presenting need for more liberal harvesting of deer, their boundaries to be not closer than three miles to the nearest township, county or State road.

2. Issue antlerless deer licenses for each of these tracts in sufficient number to effect adequate reduction of this deer class.

3. Antlerless licenses would be designated for specific wilderness tracts, and would be applicable to no other. Eligibility for their procurement would be determined by satisfactory evidence of intent to occupy a hunting campsite within the tract, and possession of the regular big game license.

The possessor of both the antlerless deer and big game license could of course legally possess two deer, one antlerless (deer with no antlers or antlers less than 3 inches in length) and one antlered deer. No limit on the number of regular big game licenses for the wilderness tracts is proposed, the limit being applicable only to the antlerless licenses.

A more detailed and specific plan is being formulated and should be ready to present for discussion by early fall. It should also be pointed out that this is only a part of the Statewide deer management plan which is under study. No part of it would be ready for application before the seasons of 1954, and such application would, of course, be contingent upon approval by the 1954 Legislature.

—E. L. CHEATUM

$2,400 DEER

A Game Protector assigned to the Ramapo murder case rounds up some deer poachers

Chief Abe Stern and Assistant District Game Protector Hollahan looking over the knives found on the defendants in the case

ILLEGAL venison comes high in the Ramapos. $30 per pound is a stiff price to pay for deer meat, especially when you don't get to eat it or even keep it.

The Ramapo Mountains in Rockland and Orange counties have been the scene of illegal deer poaching for years. One reason for this is that the northern boundary of Rockland and the southern boundary of Orange contribute to the great area of the Harriman State Park, wherein all wild animals are protected. This protected area is well known to deer poachers and illegal market hunters from the adjacent metropolitan areas—and New Jersey.

In particular, the Ladentown-Suffern area, on the fringes of the park lands, has presented recurrent problems of law enforcement. In the past a great many apprehensions for illegal deer taking have resulted in fines usually not exceeding $100, but this meager penalty never proved to be much of a deterrent. Then in the last few years the Legislature amended the Conservation Law prescribing stiffer penalties for violations involving (a) the taking of a deer by aid of a jacklight, (b) taking doe deer illegally, and (c) taking deer prior to the first day of the open season and after the closing day. Such offenses also were made indictable misdemeanors, punishable by imprisonment for not more than one year, or by a fine of not less than $100 nor more than $500, or by both for the first offense. Heavier fines and penalties were provided for second and third convictions. But despite this new law, traffic in illegal deer continues.

But just recently we settled a case that may really teach poachers a lesson. The apprehension of the four men involved in this latest case of deer jacking, which resulted in the payment of the highest fines ever secured for such a violation, all began with—murder.

At 10:30 Sunday morning, October 26th, 1952, two squirrel hunters in the wooded area north and west of Sloatsburg (in the foothills of the Ramapo Mountains) came upon the bodies of two murdered men, evidently victims of poachers whom they had surprised in the act of dragging out a freshly killed deer. The victims of the double murder were Robert Nugent of Sloatsburg, age 43, Town Clerk of the Town of Ramapo, and Charles Simpson, age 38, banker of Saddle River, New Jersey. It was cold-blooded murder, for each man was shot in the back, and both bodies were found sprawled, face down, over the dead deer.

As a result of these murders and the fact that the perpetrators have not as yet been caught, State Police, Game Protectors and local Police have been continuously alerted.

Following these murders, I was assigned by the Department to work full time with State and local authorities in order to apprehend the criminals. Protectors James Welsh of Newburgh (Orange County), James Campbell of Stony Point (Rockland County) and Henry Bernstein of Phoenicia (Ulster County) and others, have also spent many days and nights patrolling their respective areas in an effort to track down the killers. All the above were assigned to such duty (with instructions to give every possible assistance to State Police) by Supt. of Law Enforcement Andrew Vormwald of the Conservation Department.

At the height of the deer season, I received several complaints from the Ramapo-Suffern area—night shooting, illegal doe killing, illegal use of high powered rifles. On November 22, 1952, while patrolling the Suffern mountain area on foot, I heard three shots coming from the mountains. It was dusk and misty at 4:45 p.m., 15 minutes before the day's hunting was legally closed. I also thought I heard a cry for help. A check of the area disclosed a 1941 Chevrolet, bearing a New Jersey license plate, parked at the end of a wood road at the foot of the mountain, about one-half mile from the highway.

I returned to my car and waited near the end of the wood road, adjacent to the highway, for the car to come out. At 6:05 p.m. the car emerged from the darkness onto the main highway, lights out, and started in the direction of Suffern. Then a wild chase began. I pursued the car along Route #202, at 80 miles an hour with siren screaming, but all to no avail. Finally, however, three miles away from where the chase began, I was able to maneuver my car so as to force the other car off the road to a stop.

Opening the door of the fugitives' car, I saw four blood stained men—blood on their hands, blood on their clothing, and blood on their four shotguns. They were ordered from the car and requested to open the trunk. At first, the driver protested that he

did not have the key. Reluctantly, he finally opened the trunk, in which were two very small doe deer, dressed and beheaded.

I then put in a call for assistance to the Ramapo Police Department, and Patrolman Joseph Miele and Sgt. Francis Callahan were dispatched by Chief of the Ramapo Police, Abe Stern. They took the four violators to Ramapo Police Headquarters, and Justice of the Peace William Schmarge, Jr., was called. The four were identified as: Otto Schreib, age 32, Carl Schreib, his brother, age 30, Santo Uccello, age 35 (all from Paterson, New Jersey), and LeRoy Hickman, age 33 of Dorchester, New Jersey.

I filed four informations before Justice Schmarge, and the men were arraigned, specifically charged with illegally taking, possessing and transporting two wild doe deer during the close season. All four defendants waived examination, were remanded to the County Jail, and held for action by the Grand Jury.

Bail was posted the next day, Sunday, November 23, and the defendants were released pending action by the Grand Jury. Rockland County District Attorney John F. Skahen prepared the cases for presentation to the Grand Jury, and was most co-operative with the Conservation Department. The defendants were interrogated by Sgt. Berglund of the Bureau of Criminal Investigation of the New York State Police, Cpl. Thomas Brann of the New City Barracks, and by myself. The four shotguns were test fired and sample shotgun shells analyzed as to the possibility of their being associated with the double murder. The results were negative.

On Friday, February 13 (lucky day) the case was settled by stipulation between the Conservation Department and the defendants in the amount of $2,400—$600 per person.

The illegal doe deer weighed only 34 and 38 pounds respectively. They were turned over to a charitable institution in Rockland County, and somewhere, somebody ate venison at about $30 per pound.

Since the termination of this case and the resultant publicity, there has not been a single complaint of poaching received from the area involved. The deterrent effect of stiff penalties and strict law enforcement is evident.

But State Police and Game Protectors are still constantly patrolling and checking, hoping to unearth a clue to the double murder. This activity will continue until the case is closed.

—Gerard C. Hollahan,
Asst. District Game Protector

THE TREES OF LONG ISLAND

A MOST attractive contribution to the dendrology of the Empire State has appeared recently as Publication No. 1 of the Long Island Horticultural Society under the title, "The Trees of Long Island." The author, George H. Peters of Freeport, is a Vice President of the Society.

This is not a tree manual in the sense of describing individual species, but is rather an account (and a very readable one) of the arborescent population of the Island, with special reference to its historical development, and containing a summary of the particularly large trees as reported in the "big tree census" taken in 1922 and again in the years 1947-51. Outstanding in this respect are cited the Nation's largest Ailanthus in the Village of Head of the Harbor, and the largest horse-chestnut located in front of the Scudder Homestead at Halesite near Huntington, together with white and black oaks, sycamore and black walnut of extraordinarily large size. It may be stated here that the claim to the largest black oak, the so-called Theodore Roosevelt oak at Lloyd Neck, which was 19 feet in circumference in 1947, will be challenged by Dutchess County (from which an oak of this species was reported in 1941 as being 20 feet, 11 inches circumference, breast high). An excellent background sketch is provided in the section dealing with the early records of the trees and forests on the Island, as well as their place in geological evolution. Of special interest are some of the lesser known facts pointed out: That until recently, so boreal a species as red spruce, and southern species such as willow oak together with Virginia and shortleaf pine were native to the locality. Equally unfamiliar to most is the occurrence of paper birch, of which it is said "there are still about four specimens" near Wyandanch.

Native "museums" such as the Sunken Forest and the Prosser Pines are described in some detail and reference is made to outstanding tree collections in botanical gardens, nurseries and private estates. Noteworthy among these are the Brooklyn Botanic Garden, the remnant of the Parsons Nursery at Flushing, the collection on the grounds of the Samuel Parish Art Museum at Southampton, the W. Bayard Cutting Estate at Great River (since December 1, 1952, under the jurisdiction of the Long Island Park Commission), and the W. R. Coe Estate near Oyster Bay, which will eventually become the site of the School of Horticulture of the Long Island Agr. and Tech. Inst.

A significant trend which is emphasized throughout the booklet is the replacement—at least locally—of the native tree flora by exotics. As the author puts it: "One consolation is that the clearing of our native forests and the extermination of tree species by the hand of man has been compensated for by the introduction of foreign plants to add variety and new beauty to the land." Among such introductions are cited the Deodar cedar, the 50-foot *Sequoia gigantea* on the Childs Frick Estate at Roslyn, the famous weeping beech in Flushing, and the monkey-puzzle tree (Araucaria) growing outdoors in Stony Brook. More special mention might also have been made of the two unusual species of Abies listed among the exotic trees on the Cutting Estate, namely the Algerian fir (*A. numidica*) and the Spanish fir (*A. pinsapo*); these conifers are probably not represented in any other pinetum north of Philadelphia.

The introduction of the black locust from Virginia by Capt. John Sands in 1700 is described, though it might well have been pointed out (for botanical completeness) that this locust, called "Shipmast" by foresters, is now recognized as a distinct form (*rectissima*).

Although "The Trees of Long Island" is in the popular vein, the author has been meticulous for the most part with respect to nomenclatural accuracy. There appears nevertheless to be some error with regard to the listing of southern red oak as *Q. borealis maxima*, (a designation properly applied to the large-fruited form of the northern species), instead of *Q. falcata*, now accepted by Standardized Plant Names. But it must be admitted in fairness that the nomenclature of the red oaks has always been rather unstable, so that the most competent of botanists can hardly be blamed for losing his way in the confusion of changes, citations and reinterpretations.

One of the best features of the booklet consists of the profuse illustrations, every one of them excellent and informative. Of great local interest, also, is the detailed tabulation of the largest trees of each species, as well as the ten largest trees of the more common species. The booklet is obtainable from the Long Island Horticultural Society, Long Island Agricultural and Technical Institute, Farmingdale, L. I., N. Y., for the listed price of $1.00.

—E. W. Littlefield

A lot of people think that the only thing a Game Protector has to do is enforce the Conserv ti
Canepi, then District Game Protector in charge of the New York City division and now Ass t
erintendent of Game Research. Date: September 8, 1951.

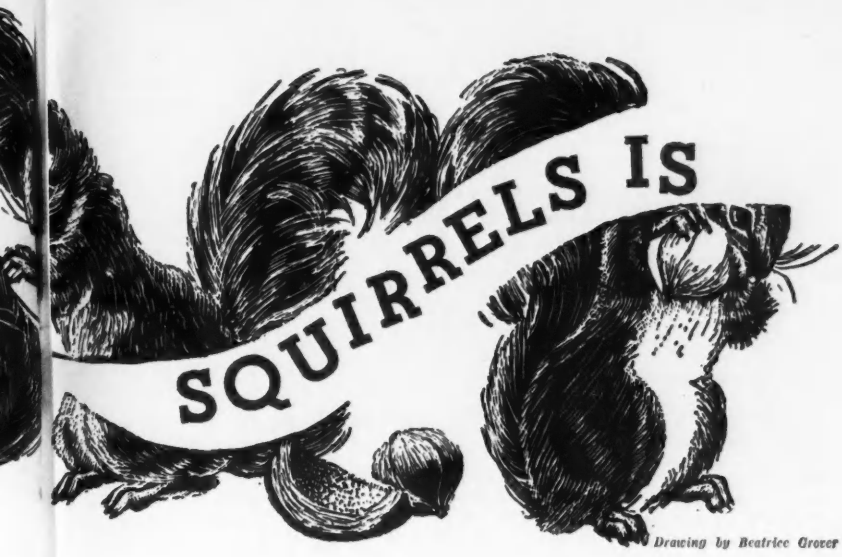
Dear Bob:

EACH year as you know, it is necessary for us to issue hundreds of squirrel damage permits down here (New York City). It seems that when progress tipped the balance of Nature, the squirrels were at the controls; anyway they are steadily on the increase. Our complaint files so indicate. Concrete, macadam, no trees, plenty of buildings and a genius for begging have proven in these parts to result in more squirrels, and their ability to adapt their lives to this hunk of granite is unbelievable.

This year (as usual) I have been threatened by persons receiving squirrel trapping permits that they would dump their catch in the office if successful. Others, on receiving their permits in the mail, write back: "Who do you think I am, Frank Buck?" And each day you get a blast over the 'phone because a playful squirrel has removed the insulation from a hot wire, resulting in a near fire, or has decided that the new (unpaid for as yet) portieres stored in the attic make ideal nesting material. Other squirrels have indicated their love for salt by chewing the bindings of great Aunt Matilda McDuffy's reader that has been in the family for years, along with the Family Bible. The latter damage not only indicates a disregard for religion, but could raise hobs if the insurance company decided to check on Grandpa's birth date.

Down here the public is divided. On one side we have the squirrelers, and on the other side the anti-squirrelers. Somewhat similar to the pigeoners and anti-pigeoners. The squirrelers enjoy feeding the little animals and look forward to their daily visits to window sills and fire escapes for a handout; the anti-squirrelers are the ones who have been "honored" by squirrels which take over the attic for a den. When an anti-squirreler is issued a trapping permit, and then happens to catch a neighbor's pet squirrel, the fur really starts to fly. I would say these animals have caused more neighborhood feuds than Bridge.

The weird part of the whole set-up is that these two factions are controlled solely by the squirrels. Why? Because a squirrel never seems to take over a squirreler's house, and will at all times in a squirreler's presence act in the manner depicted by Walt Disney. Which brings to mind the time I



Drawing by Beatrice Grover

nserv tion Law. The following letter may serve to enlighten such people. It was written by Harold
Ass tant Superintendent of the Bureau of Law Enforcement. It was addressed to Bob Darrow, Sup-

was talking to an anti-squirreler and remarked "You must admit they're cute little fellows." "Cute, hell," he said. "They're too damned smart."

Most of our streets down here are as free from trees as a bullfrog from feathers. Yet there are plenty of squirrels and they do plenty of climbing—not on trees of course, but along the buildings and wires. If you go through Central Park you will find many scampering among the branches between handouts. I guess they have to spend so many hours a year in a tree so as not to break their franchises. The big book says "a squirrel is an arboreal rodent." But down here that arboreal business went out with the horsecar. However, the rodent part remains; they can gnaw through four inches of plaster and beaver board quicker than a super market can go through a five dollar bill.

I had a damage investigation several years back in a four-story private residence. It seems that during the winter months (as the members of the family took off for their winter home in Florida) the help would shut off the heat in that particular wing of the house as soon as it was vacated. By January, only the help remained. They occupied quarters off the kitchen. I was called to this home along in March and was guided through the house by a very much distraught housekeeper. It seems that a squirrel (its mother must have been scared by a well driller) on finding that the heat was being turned off, gradually kept moving down to warmer quarters. Eventually it wound up in a front vestibule next to a radiator that was still open, and built a beautiful nest out of some draperies and an oil painting that were handy. That little borer came through four floors the hard way, and to prove it never used a stairway.

SQUIRRELS are definitely hot house babies, and thrive on steam heated quarters. As for their need of a winter coat, I put them in a class with certain chorus girls—for looks and style only. I'll bet if we ever had a winter-long coal and fuel oil strike down here, the squirrels would migrate South. In fact I have given serious thought to promoting such a strike, but have hesitated at becoming involved with unions.

You know that the Department strives to be fair and to please all in a manner that serves conservation best. This is evident in our present system of issuing permits to live trap animals doing damage, with the permittee supposed to release such animals in suitable cover. As to suitable cover for squirrels down here, that could easily be Foley Square or Park Avenue. But we always suggest a trip to northern Westchester or Long Island.

Back quite a few years ago (well before I was desk-locked) I made a few experiments. After taking the squirrels from the cago trap, and daubing their tails with a harmless white solution, I put them in the car and drove north. I drove quite a distance—well, we received four cents per mile then. But do you know that three or four days later I would receive complaints from the areas where the squirrels were trapped that a new breed of white-tailed squirrels had moved in.

Long Island was my next area of exploitation, with the plan that the Harlem and East River barriers would stop them, plus the idea that they would renege on the bridge tolls. No luck there either, and anyway, Brooklyn has more squirrels than Dodger fans.

You say you like squirrels. So do I, but not in houses.

—HAROLD L. CANEPI

CHATEAUGAY LAKES

FISH PRESENT:

rainbow trout (R.T.)
brown trout (B.T.)
brook trout (S.T.)
lake trout (L.T.)
salmon (stocked in 1952)
whitefish (Wf)
white sucker
brown bullhead (Bh.C.)
yellow perch
pumpkinseed
minnows

FUR-BEARERS:

beaver
muskrats

HUNTING IN VICINITY

grouse
deer
bear
ducks

LOCATION:

West central Clinton County

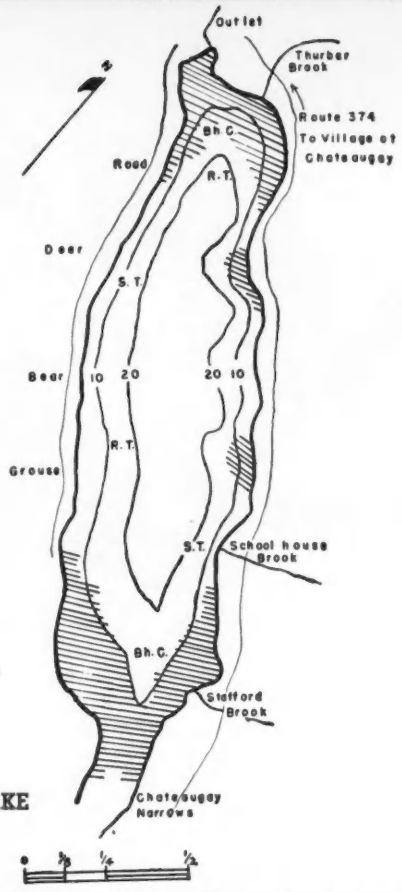
PHYSICAL FEATURES:

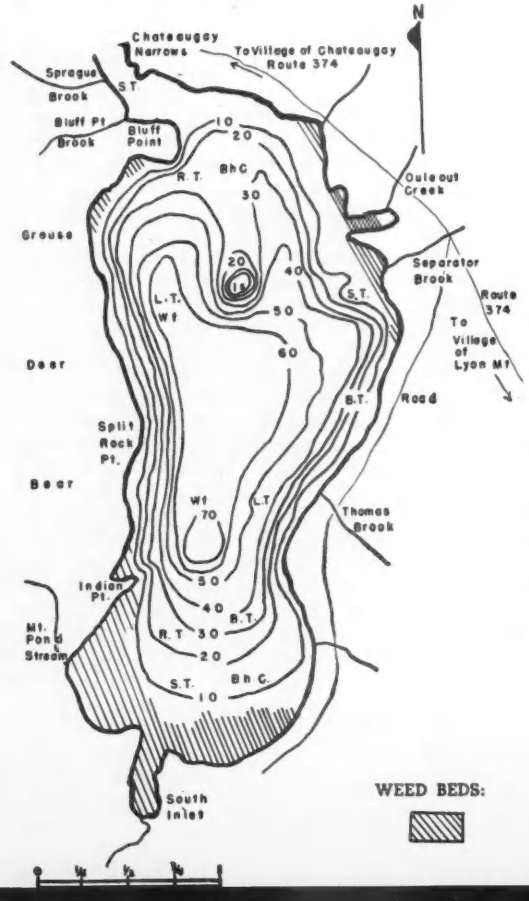
Area: 2,304 acres
Elevation: 1,310 feet
Maximum depth: 78 feet
Length: 3.5 miles
Maximum width: 1.5 miles
Oxygen: good all depths
p.H.: surface-alkaline, bottom-acid

GENERAL:

Hotel and boats available

UPPER CHATEAUGAY LAKE





LOWER CHATEAUGAY LAKE

LOCATION:

Northeast Franklin County

HISTORICAL:

First white settler about 1783

PHYSICAL FEATURES:

Area: 500 acres
Elevation: 1,310 feet
Maximum depth: 23 feet
Length: 2 miles
Maximum width: 0.5 mile
Oxygen: good all depths
p.H.: alkaline

FISH PRESENT:

rainbow trout (R.T.)
brown trout (B.T. occasional)
brook trout (S.T.)
white sucker
brown bullhead (Bh.C.)
yellow perch
pumpkinseed
minnows

GENERAL:

Hotel and boats available

HUNTING IN VICINITY:

grouse
deer
bear
ducks

FUR-BEARERS:

beaver
muskrats

MISCELLANEOUS:

Lower Chateaugay connected with Upper Chateaugay Lake by Chateaugay Narrows, about 3½ miles long. Narrows are navigable by boat.

—DONALD G. PASK.

WEED BEDS:

The Passenger Pigeon

LAST fall Harrison Strait of Hyde Park wrote in and said he knew a Mr. Albert Roosa, a neighbor, who knew how Passenger Pigeons used to be trapped in the Catskills. Would we be interested in meeting him?

Albert Roosa (83 now) was ten when Simeon Keator of Kingston took him pigeon netting near Olive at High Point, the only time Mr. Roosa ever went. Mr. Roosa explained how they caught them but couldn't remember how the net worked, but maybe his brother, Frank, (78 now) at Olive Bridge would remember. So we drove over to see Frank. But he didn't remember either. He thought Mrs. Orie Hinkley, up the road, had a pigeon net in the attic. Instead, we found the stooling device which is shown on the next page.

We asked Frank Roosa if he knew of anyone who might know about the rigging of the trap. Well, Bill Haver at the Stuyvesant Hotel, Kingston, might know if he were still alive. We went to Kingston and found Bill Haver at 91 very much alive, more so than a lot of men at 55. Bill couldn't describe the trap either, but he said he could whittle out a model of one. We looked at him in amazement, but then he took us up to his room and showed us whittlings of boxes within boxes and balls within balls. All done to while away the time. So we weren't amazed when about two weeks later, the whittlings of the pigeon trap arrived. Look at the photographs.

Trap Construction:

Check the photographs to follow the trap construction. First, a bough house (a blind) of hemlock branches was built, then two springpoles of ash or hemlock were cut 6 feet long, one of which was anchored about 150 feet from the blind and the other in the bough house. A line connected the springpoles and to the middle of this was attached an 8x12-foot net, the rear of which was staked with forked pegs 3 feet apart. Next, two 1-inch thick slats 3½ inches wide and a foot long were pounded into the ground 2½ feet f[illegible] of the net but in line with [illegible] stake, which was L-shaped. This buried slat protruded 2 inches out of the ground and had a half-inch auger hole bored through it.

After this, two throw stakes 2½ feet long were made, one end of which was grooved to hold the rope while the other was rounded to pivot in the smaller sized auger hole. To set the net, the front rope connecting the springpoles was fitted into the groove of the throw stake nearest the bough house and pushed under the L-shaped net stake, while the rounded end was stuck in the auger hole of the imbedded stake. The auger hole and the L-shaped net peg kept the throw stake from flapping out. The process was repeated on the other side, and so the trap was set.

One or more live pigeons called *fliers* were tethered to pegs by 50-foot strings. Another bird was tied to a stooling device. When a flock of pigeons was sighted, the fliers were thrown into the air to come fluttering down at the end of their strings. As the flock veered to see what these fliers had found to feed on, the men in the bough house pulled a string to raise and lower the stool pigeon device, causing the pigeon to flutter. Naturally enough, the flock thought everything was safe and landed on the grain in front of the net.

When enough birds had alighted on the baited bed, the springpole in the bough house was pulled backwards, pulling the forked ends of the throw stakes from under the L-shaped stakes. Both throw stakes would be forced to spring upward, pivotting in the auger holes. The net was carried up and over the birds as the springpoles snapped back to a normal position.

Migration:

Throughout the United States east of the Rockies, only about six great flocks were found, migrating north and south at proper times. Alexander Wilson (1806) estimated one of these flocks to be 240 miles long and a mile wide, containing over 2,230,272,000 birds—or roughly three per square yard.

A large flock appeared at New York City in February, 1842 when the Hudson was frozen over and the snow a foot deep. Another flock was seen near Albany during the winter of 1819. According to DeKay (1842) these winter visits were inexplicable. Thousands of migrating pigeons died in a snow storm near Albany on March 25, 1830.

Nesting:

In 1810, 20,000,000 were reported nesting on the borders of New York and Pennsylvania (French, 1916) about 25 miles from the present City of Olean. Eaton (1910) states that in 1835 there were great roosts near Norwich; near Ft. Edward in 1863; between Altona and Chateaugay in 1867, and at Cooper on May 5, 1875. The last nesting at Ashford took place in 1852. Here all the squabs and adults were killed. Between April 1 and June 15, 1854, millions flew regularly across Wayne County to feed at the salt springs near Montezuma.

The last great nesting in New York occurred in 1868, when millions occupied the timber along Bell's Run near Ceres, Allegany County. This nesting tract was 14 miles long.

Nesting communities were one to four miles wide and up to 100 miles long. Each colony in the community had its own boundaries. So rigidly respected were these boundaries that half the trees along the perimeter would often be filled with nests, while the other half was empty. After the birds arrived at a nesting site, they rested and preened for two days before building nests. Males supplied the sticks, while the females arranged them in flat platform nests about 10 inches wide.

Each female laid one egg. But many nests had two eggs. This meant that uncontrollable natural urges to lay an egg forced many females to deposit an egg in a nest already containing one,

leading many people to believe erroneously that the Passenger Pigeon laid one to two eggs at each nesting. After 14-15 days of incubation, young were hatched. The young were completely feathered in eight days and left the nests. Parents tended the young for four weeks, then migrated 20 to 110 miles northward to have another brood, leaving the young behind. About a week after the main flock left, the young followed slowly on foot. Adults had three to four broods between February in the South and July and August in the Hudson Bay Region, with five to seven weeks elapsing between broods and migrations northward.

Feeding Habits:

Females slept on the nests at night. At dawn the males left to feed, travelling 20 to 70 miles to feeding grounds. The males returned about 9 a.m. to relieve the females who were gone until noon or so. The males again left and returned about 3 p.m. wherupon the females were gone until dusk. All the males in the colony left at the same time, travelling in one general direction. On their return, the females did the same. James Fenimore Cooper in his *Chainbearer* (1852) gives one of the most graphic descriptions of this action at a nesting site in New York. Ravensnest and Mooseridge were his fictional towns, but one of these might have been Ravena, as the Village of Kinderhook was mentioned to be nearby.

Adult birds never fed near nesting sites nor in the general direction of their migrations. This allowed the young (on foot) plenty of food until they got used to wings. When feeding, the young appeared like a tumbling stream rolling through the woods, each bird striving to be in front.

Food:

Wilson estimated that each bird ate one pint of food daily, that would mean a total of 17,424,000 bushels of food per day for the flock he estimated to contain 2,230,272,000 birds. J. J. Audubon (1813) estimated a flock of 1,150,136,000 birds and figured they needed 8,712,000 bushels of food a day to keep them going.

Food mainly consisted of acorns, beechnuts, chestnuts, cherries, raspberries, blueberries, currants, pokeberries, strawberries, domestic grains, rice, seeds of grasses, weeds, locust, maple, mulberry, elm and rose hips. During nesting, insects were largely eaten; earthworms, grubs and grasshoppers. Pigeons also were very fond of salt and it was used as a substitute bait for grains.

The Slaughter:

When the Passenger Pigeon arrived to roost or to nest, slaughter would begin. Hundreds of acres of beech and maple fell to the axe in the course of a few days. Families and towns made picnic days of it, salting squab down in barrels for winter, for market, for oil or killing them for sheer wanton delight. Wilson said gunners and axemen swarmed in every section of forest, swearing and laughing. The noise of falling trees, shouts, shotgun blasts, the flutter of wings and cooing of pigeons filled the woods. A man had to shout to be heard by a companion standing beside him.

The Indians were angered by the slaughter, for they regarded the parent birds as sacred during the four weeks of rearing the young; and killed for food only the unmated, the old and the young which fell prematurely from the nests. J. F. Cooper in his *Pioneers* 1852 describes a slaughter on the Susquehanna River in New York and an Indian's indignation.

Pigeon netting was a business replete with scouts notifying pigeoneers when pigeons arrived in various spots of New York. Pigeoneers merely pulled up stakes when pickings got slim and moved 50 or 100 miles to another site.

When pigeon trapping was in its prime, one pigeoneer caught 2,000 dozen in ten days, or about 2,500 birds a day. On natural salt licks, double nets used to catch three to 400 dozen birds a day. H. B. Roney, January 11, 1879 in the *American Field* estimated that 1,500,000 were killed in the summer at Petoskey, Minn. and that 80,352 were live shipped. Live birds were in great demand at trap and skeet shoots. These figures were based on railroad shipments and did not include cargoes by boats at various ports.

An account book of the Roosas' father at Olive Bridge, N. Y. reads:

Sept. 9	15 doz. 7 @	12/a doz.	$23.38
Sept. 15	20 doz. @	12/a doz.	30.00
Sept. 22	16 doz. @	10/a doz.	20.00
Sept. 29	8 doz. @		10.00

The price was apparently figured in shillings and the pigeons were sold to one Sam Frame of Kingston, who bought in quantity. The wild pigeon slaughter continued until about 1888 when the last great flock disappeared, and only scattered numbers of 100 or so were seen in later years.

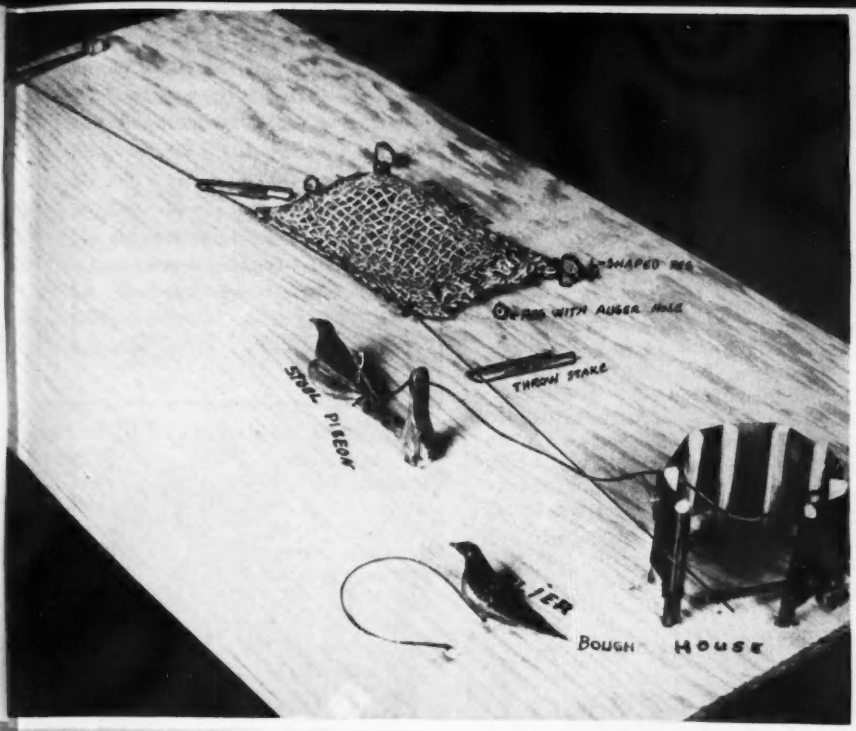
The Survivors:

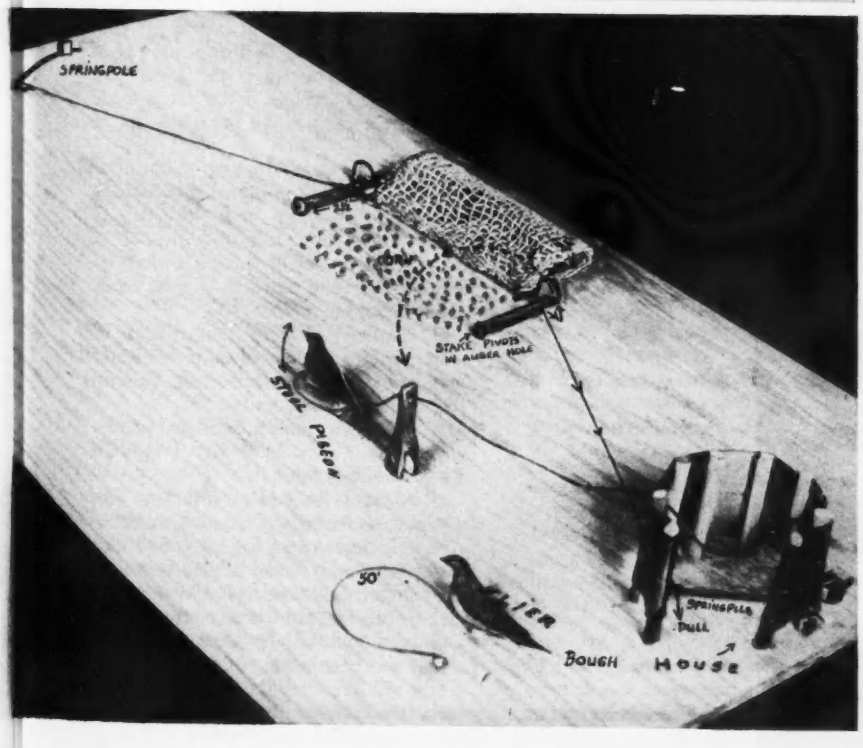
Eaton's *Birds of New York* lists many observations of pigeons seen after 1900, but the last Passenger Pigeon seen in New York was reported by Huyck in the summer of 1907 at Rensselaerville. The last known wild bird shot in the United States was killed in Connecticut in August, 1906. The famed "Martha" of the Cincinnati Zoo was one of a dozen birds bred in captivity by Prof. C. O. Whitman of Chicago. Martha was 29 years old when she died in the Zoo at 2 p.m. August 29, 1914. During the last year's of her life a $1,000 reward was offered for a mate for her. About that time, the National Audubon Society offered $1,500 to anyone who could find a Passenger Pigeon nest. No one collected.

Just when the last Passenger Pigeon was killed in New York is obscure. A young male was shot by Addison P. Wilbur, Canandaigua on Sept. 14, 1898. It was recorded by Eaton who stated he saw it killed and that "it was unquestionably reared in the spring of 1898 as it was assuming adult plumage." But, 19 years later S. C. Bishop and A. H. Wright, Cornell University, Ithaca, published a letter in the *Auk*, April, 1917 which threw the records skyhigh. This letter was written by J. L. Howard, Justice of Clyde, and states:

Detail of stooling device, controlled by strings from the blind or bough house. Stool pigeon was tied on crosspiece at left, which was raised and lowered by pivoted arm shown at right

"My account of the shooting of the Passenger Pigeon must be short as there was but little of it. Upon the John Heit farm about 2½ miles southwest of Clyde and near the Clyde River is, and has been longer than I remember, a small pond nearly round and about 3 rods in diameter. A low hill upon the south reaches to the water's edge forming the sloping beach. Years ago this pond was in a large forest. Now this was always, as long as there were any pigeons, a favorite place for them to come and drink. Six years ago (1909) I think, I took my gun and went to this pond in hopes I might get a Blue Heron, which I very much wanted. There were tracks of herons, plovers and other birds in the mud around the shores, so I sat down in some bushes and pulled them up around me, so as to partly conceal myself, facing the East, when I could see a long distance. Presently I saw, far to the East, a bird coming directly towards me. I took it to be a Pigeon Hawk. It flew off to my right and turned in behind me, and the next instant I heard its wings beating for a short span and then I heard to my right and very near the loud and distant crow of a Wild Pigeon. Well that was a sur-





prise. I had not seen a pigeon in 15 years or more and now I sat within a few feet of one and he kept on crowing. Well I went to work at those bushes, pulling them apart when suddenly I saw him standing upon the top of a fence post and still crowing.

"I picked up the gun and placed it to the shoulder and, old hunter and trap-shooter as I was, I could not hold the gun I trembled so. But I took a trap-shooter's chance and got the bird."

Howard was over 80 years old and gave the pigeon mounting to Cornell University. If Howard's memory was accurate, he shot the bird eleven years after the last certain record of Sept. 14, 1898. But, to confuse the issue more, on the bottom of the mount is the legend "Geo. L. Perkins, July 5, 1898", a date close to Sept. 14, 1898. Perkins, the taxidermist, was dead at the time of the Howard letter. Perhaps the base was adapted from some other bird mounting, but no one will ever know unless someone living in Clyde remembers the incident.

Reason for Extinction:

Extinction might have been caused by a combination of many things but if you read the literature, you'll conclude that Man, trying to make an easy dollar, was the main reason. Epidemics, the lack of beech forests, early deep snows, forest fires and the like—all took a back-seat to Man.

Darwin in his *Origin of Species* puts it another way: "We need not marvel at extinction; if we must marvel, let it be at our own presumption in imagining for a moment that we understand the many complex contingencies on which the existence of each species depends. If we forget for an instant, that each species does increase inordinately, and that some check is always in action, yet seldom perceived by us, the whole economy of nature will be utterly obscured. Whenever we can precisely say why this species and not another can be naturalized in a given country; then, and not until then, we may justly feel surprise when we cannot account for the extinction of any particular species or group of species."

At any rate, the soul of Audubon must have been greatly stirred on the wild autumn night in 1876 when a heavy storm in the Hudson Valley drove a large flock of wild pigeons into the Trinity Cemetery, to find refuge in the old trees and on his grave.

—Nick Drahos

Thanks for article help are due to: Harrison Strait and Albert Roosa, Hyde Park; Frank Roosa, Olive Bridge; Mrs. Orie Hinkley, Kerhonkson; and William Haver, Kingston. —N. D.

AIR LAYERING— by H. Gleason Mattoon

This article is presented for the general interest we feel it will have to many readers, and more specifically to those interested in the field of plant propagation. The use of air layering is a means of rapidly producing well developed plants of advanced age that are true copies of a desirable original—be it a tree, shrub or bush. Obviously, the potentialities of such work in the field of conservation are almost unlimited.

SINCE time immemorial, reproduction of woody plants has been by seed. But today, with the selection of varieties and clones of special merit, *vegetative* propagation has largely superseded seedling production in horticulture and is receiving more and more attention by foresters and wildlife specialists who wish to reproduce special qualities of a particular tree or shrub.

Skilled propagators in the past have done this by grafting or rooting cuttings, but to pursue either practice requires skill and expensive equipment. But today, one of the oldest methods (simplified by modernization) is supplanting the more difficult and more expensive grafting. *Air layering*—this new-old method by which vegetative reproduction in the field or woods is feasible—can be used by anyone. Foresters, farmers and back yard gardeners will find this method valuable because it offers a simple way of reproducing without variation special qualities or characteristics inexpensively and quickly.

The ancient Oriental art of air layering—whereby a branch was wrapped with soil, moss or other material and kept moist—caused roots to form on the branch within the wrapped ball. Daily watering of the earth ball was necessary in by-gone times to insure success, making it a tedious operation in spite of ingenious aids that were sometimes devised to maintain a constant amount of moisture in the ball, such as suspending a leaking can or pail above the ball which would replenish the moisture by the constant dripping of water.

Because of the labor involved and its limited application as originally practiced, air layering (sometimes called *marcottage*) went out of use except in the greenhouse until 1947, in which year the late Col. William E. Grove of Laurel, Fla., used a plastic covering over the ball of moss. Such a covering retains moisture, yet permits translocation of air and carbon dioxide—an essential action for successful rooting. A gas-pervious and water-impervious film such as polyethylene (which is transparent) has the added advantage of permitting the roots to be observed as they develop through the ball of moss.

While air layering, as practiced by the Chinese 1,000 or more years ago, is actually little altered today, the minor improvements have made general use feasible. In applying an air layer, the following steps are important:

1. With a sharp knife make a cut upward along the side of a branch, leaving a flap of wood and bark one to two inches long attached at the upper end. A branch one-half to three-quarters of an inch in diameter is the ideal size. On smaller branches, if the cut is made toward the center, the branch is apt to break.

Final steps: wrapping the sphagnum ball with polyethylene and tying the ends with rubber strips or tape

Slitting the branch—the first step in applying an air layer

Hormone has been dusted in the slit. Applying sphagnum to the slit so flap of wood and bark will not re-unite

Shaping the ball of sphagnum around the branch and over the slit

2. Dust a small amount of hormone powder on the incision, then slip a strand of sphagnum under the flap to prevent it from reuniting. Any one of several commercially prepared root-inducing hormone powders may be used. I like Rootone #10.

3. Soak a ball of sphagnum moss in water, then squeeze out as much water as possible. Sphagnum is easier to handle than peat moss or soil.

4. Shape the moss around the branch over the cut so it looks like a football 2½ to 3 inches long.

5. Wrap a sheet of polyethelene film (3 or 4 hundredths of an inch in thickness) tightly around the moss ball and fasten the ends with rubber strips or Scotch electrical tape to hold it in place and to prevent water from entering.

Small roots will be seen developing under the plastic film in from 6 to 14 weeks. When they are well developed, sever the branch just below the ball and remove the polyethylene film care-

fully so the roots in the sphagnum will not be disturbed. The newly produced tree with the sphagnum ball attached may then be potted or planted in the open ground, depending upon the season. In any case, keep it shaded and well watered until the roots have established themselves in the soil.

Air layers may be applied at any time during the growing season, though most rapid root development results from spring or early summer application. In the far south and on the west coast, however, they may be applied during most of the year.

Tests indicate that the optimum time of application varies with the species. It has also been found that good root development takes place on three-, four- and five-year-old wood on dogwood, Chinese chestnut, oak and maple. This fact is the key to the importance of air layering. The value of producing in one season a four- or five-foot tree with qualities duplicating those of the parent stock is readily apparent, for thus rapid reproduction of hybrids or selected clones for special purposes is feasible. For instance if a sugar maple tree with sap testing 7 per cent sugar is discovered, it can be reproduced in large sizes quickly by air layering, thereby building up a stand of stock trees in a few years rather than a few decades.

Nursery men and home owners are resorting to air layering to reproduce their favorite trees and shrubs. The list of ornamentals which have been reproduced in this manner includes magnolias, flowering crabs and cherries, blueberries, holly, rhododendron and lilac.

Though little experimenting has been done with conifers, indications are that a technique for successful air layering of most of them can be devised. Success with Chinese chestnut leads to the belief that walnut, hickory and pecan can also be layered.

Failures are usually due to excess water in the ball of rooting medium, carelessness in making the cut, allowing the flap to reunite with the branch, or using too weak a rooting hormone. The finest root system usually develops in a sphagnum ball which has so little moisture it feels dry.

Air layering will never became the major method of vegetative propagation. However, since it requires no particular skill and no special equipment, it may be more generally used by amateurs and professionals alike for rapid reproduction of a few special types. After the knack is acquired, the whole operation takes less than five minutes. But its real appeal lies in the size of the new plants thus produced.

LEGISLATION RE HUNTING

IN the preceding issue of THE CONSERVATIONIST we reported that we would recommend to the Legislature amendments to the Conservation Law designed to (1) promote greater safety in hunting, (2) improve the conduct of hunters afield, and (3) give greater protection to the interests and rights of landowners. Accordingly, the Department drafted and caused to be introduced the following bills, all of which were passed by the Legislature and all of which—as of this writing, April 2—are before the Governor. *Therefore, none of these bills has yet become law.*

Assembly Int. 2202, *Print* 3351, *by Mr. Lawrence:* Requires (a) a person under age 21 to obtain his first hunting licenses from the County Clerks, and (b) to wear on his outer garment between the shoulders a patch, to be furnished by the Department, bearing a number identical with the number of his license. Effective Jan. 1, 1954.

Assembly Int. 2799, *Print* 3489, *by Mr. Lawrence:* Requires (a) a person under age 21 to obtain his hunting license *from the Conservation Department*, and (b) to wear on his outer garment between the shoulders a patch, to be furnished by the Department, bearing a number identical with that of his license. Effective Jan. 1, 1954.

[The provisions of this bill are identical with Assembly Int. 2202, except that it requires minors under age 21 to procure their first hunting licenses from the Conservation Department instead of from County Clerks. The Department is prepared to accept either.]

Senate Int. 2041, *Print* 2151, *by Mr. Van Wiggeren:* Provides that a person under age 18 who previously has not held a license to hunt big game shall not engage in hunting such game unless accompanied by his parent or legal guardian, or by another person over age 21 who has had at least one year's experience in hunting big game. Effective July 1, 1953.

Assembly Int. 2200, *Print* 3496, *by Mr. Lawrence:* Prohibits the discharge of firearms within a radius of 500 feet of a dwelling except (a) by the owner or lessee, (b) by persons on rifle or pistol ranges, skeet or trap fields, and (c) by persons taking waterfowl. Effective July 1.

Senate Int. 2043, *Print* 2153, *by Mr. Van. Wiggeren:* Prohibits the discharge of a firearm in such way as will result in the load thereof passing across a public highway. Effective July 1.

Assembly Int. 2197, *Print* 2284, *by Mr. Lawrence:* Provides that it shall be unlawful for any person engaged in hunting, trapping or fishing without permission on posted or unposted lands of another not to leave at once when requested to do so by the owner, lessee or occupant thereof. In addition to fines provided for this offense, a person convicted suffers the loss of his current huntihg, trapping and fishing licenses, together with the withdrawal of privilege to purchase such licenses in the ensuing year; and in the discretion of the Court, denial may be extended for an additional period not exceeding one year. Effective July 1, 1953.

Assembly Int. 1510, *Print* 3246, *by Mr. Main:* Provides that any person who while engaged in hunting shall inflict injury upon another as a result of culpable negligence or recklessness, whereby a human being is killed, is guilty of criminal negligence. Conviction is punishable by imprisonment for not more than five years or a fine of not more than $1,000, or by both. Provides also that if an injury inflicted does not result in death, conviction is punishable by imprisonment of not to exceed one year or by a fine of not more than $500, or by both. Effective July 1.

Assembly Int. 1119, *Print* 3242, *by Mr. Tifft:* Requires a holder of a big game license when afield to wear a patch furnished by the Department on his outer garment between the shoulders. Patch is furnished without extra cost to licensee at the time he purchases his license, and bears a number identical with number of his big game license. Effective July 1, 1953.

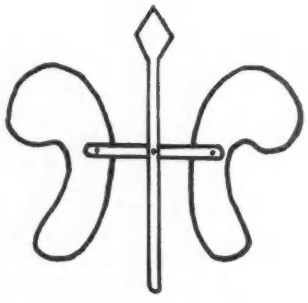
The following two bills were also sponsored and caused to be introduced by the Department, but unfortunately both failed to reach the Governor:

Senate Int. 2032, *Print* 3379, *by Mr. Morton:* Sought to increase penalty for trespass from present $10-$50 to $50-$100, and increase the minimum fine from $10 to $25 that could be imposed upon a person convicted of trespass.

Assembly Int. 2144, *Print* 2218, *by Mr. Lawrence:* Sought to increase the fine from $10-$100 to $50-$200 for conviction of trespass resulting in damage to the owner of the property; and the civil penalty from $50 to $100.

—JUSTIN T. MAHONEY

Use of the Pocket Compass



An early compass — a magnetized iron bar floated on blocks of wood in a bowl of water

RIGHT now a lot of people are making plans to go into the woods this spring or summer or fall. Most of them have gotten the idea that if they're going to get off the beaten track they ought to carry a compass—and that's good. But too many of these people don't know what to do with a compass after they've got it. And that's bad. The purpose of this article is to tell a few of the things that can and should be done with a compass.

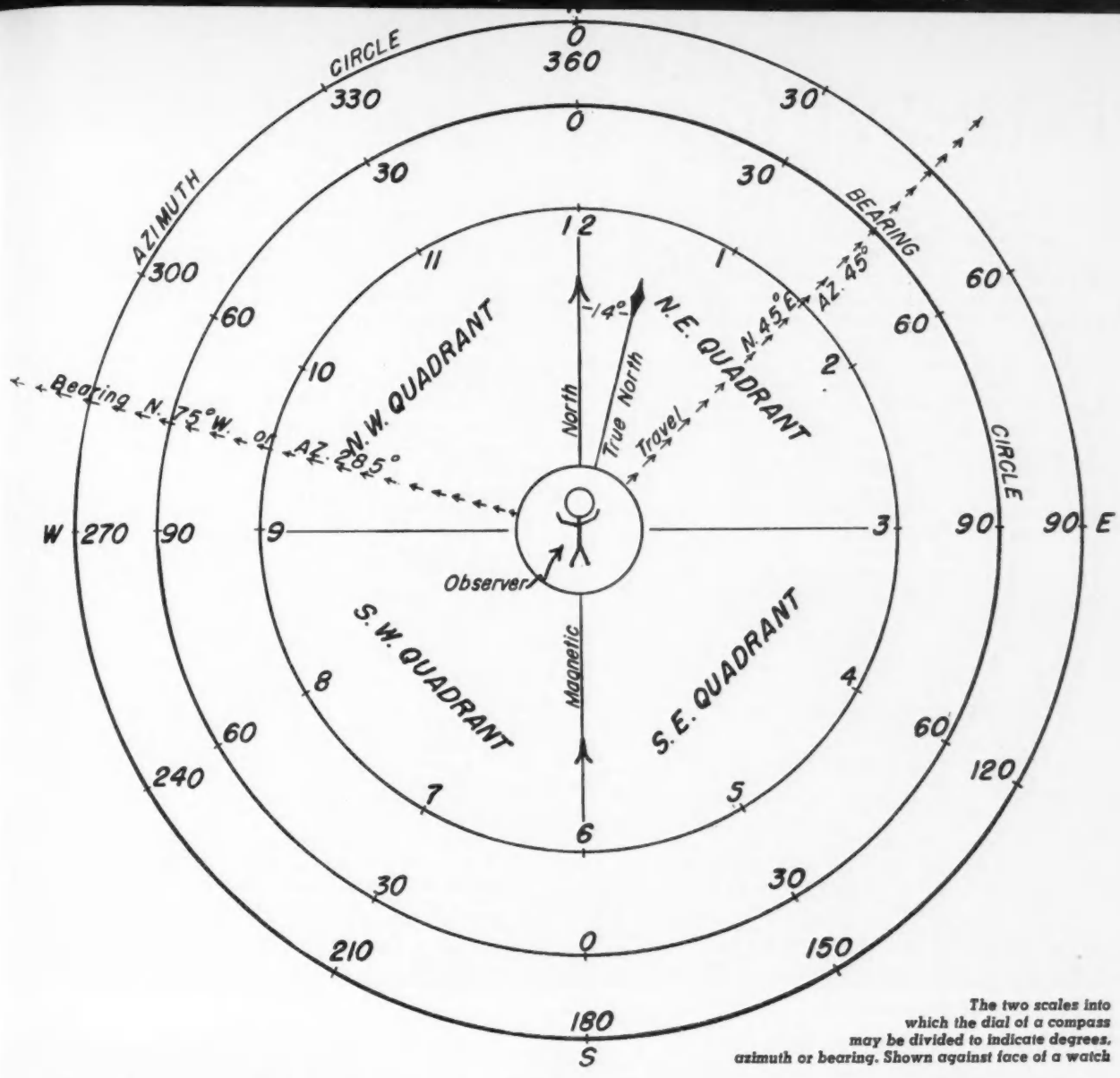
Everyone is familiar with a pocket compass, sometimes called a watch compass because the cases of watch and compass are so similar. Such a compass has been standard equipment for a long time. Now, however, there are two new types on the market. They are both used in the armed forces: The prismatic compass and the lensatic compass. Both are equipped with sighting devices but are operated from the hand and not from a tripod. The sighting devices are a definite aid in keeping a straight course, and this was naturally very important at certain times to the soldier—whose life might depend on how sure he was of his present location and exactly where he was going from there. The same considerations are important to the outdoorsman off the beaten track.

Any discussion of the use of a compass, I think, must necessarily depend on the desired result. One should choose the type of instrument that will serve his purpose. For the occasional hunter or hiker, is the ability or necessity to run a straight course the first consideration? I do not think so. The hunter or hiker is rarely interested in going through the woods in a straight line, because when one travels a straight line one must cross bog holes and swamps, and climb up and down ledges. Usually a hunter or hiker wants the best walking (at least until he gets to his hunting ground), avoiding swamps and steep hills. For him, the compass merely indicates the cardinal points—North, East, South and West—which enables him to have a general idea of where he is with respect to his starting point. Natural land marks observed along such a course are just as important in helping him to keep track of his course as is the compass—until they are obscured by bad visibility. Then the compass comes into its own, and that is the principal reason why it should be carried. When a man knows the general direction he has traveled he can, under any circumstances, refer to the compass and figure out the reverse heading which will take him back to his starting point.

The ability to reverse his direction will not depend entirely on his ability to use a compass, but too much emphasis cannot be placed on the following "musts," otherwise carrying a compass will be of little use.

1) Positive identification of the North end of the needle. 2) Positive determination of direction of travel when you start away from your parked car or camp. 3) Positive direction of your objective (such as a mountain top), which may be determined by direct sighting on it, or by determining the direction from a U. S. G. S. map, or by having some one who knows the direction tell you what it is. The writer prefers to determine the direction from a map.

If (in spite of what we said above) you feel you must go as straight as you can, then proceed as follows: Hold the compass *level* in your hand with the needle released. (Many compasses have a needle-locking device.) The needle will swing freely, and as it gradually stops, turn the compass case until the North end of the needle points to North on the dial, which is usually marked with the letter "N." (It is sometimes marked by a Fleur-de-lis or even a polar bear.) Now that the compass is oriented or set, read on the scale the direction you want to go, which must be previously determined as described above. Imagine a line extending from you in the center through the point on the scale to an outstanding object—such as an odd shaped tree, a rock or stump. Then walk to that object and repeat the operation with the same care and accuracy each time. Keep on doing this. The thicker the going, the more frequent must be the observations. This procedure will enable you to travel in a reasonably straight direction—which is all you can expect to do with a compass when the dial is only two inches in diameter and you have no built-in sighting devices. Ordinarily, your minor mistakes will compensate for each other; if you went a little to the left on one observation,



The two scales into which the dial of a compass may be divided to indicate degrees, azimuth or bearing. Shown against face of a watch

you might go a little to the right on the next.

With a lensatic or prismatic compass, the procedure is the same. However, because these compasses are held close to the eye and are equipped with sighting devices, a more accurate line or direction can be maintained. In any case, the procedure just described will get you to your objective, although it is extremely unlikely that the direct route will be the best walking.

Reference has been made above to the scale of the compass. All compass dials are divided into 360°. There are two ways of doing it, but one is as accurate as the other and the readings are easily transferred from one to the other. Both scales simply provide a method of measuring the angle of direction from a North-South line. One scale divides the circle into quadrants, with each quadrant divided into 90°. Both the North point and South point are marked "O", while both East and West points are marked 90°. It is therefore necessary, when reading this scale, to indicate the quadrant as well as the number of degrees. Directions read from that type scale are called *bearings*.

The second way of marking the compass dial is by starting with "O" at the North and numbering the degrees clockwise continuously around the dial, ending with 360°. This method makes East at 90°, South at 180°, West at 270°, North at "O" and/or 360°. By this method, the quadrant does not have to be indicated. This is called the *azimuth* scale.

For comparison and relationship of these two scales, refer to the diagram presented here which shows the two scales compared with the face of a watch or clock.

I foresee that I will be taken to task because I have not explained declination of the needle, annual change, or igonic lines, (lines of equal declination). But to learn how to tell time, you do not have to be informed about Standard Time, Greenwich Civil time or astronomical time, and the main purpose in carrying a pocket compass is to help keep one from getting lost. It is to take the place of the sun on a cloudy day or in storm and fog. and properly used under such conditions is an infallible means of determining the cardinal points. —AL. DAVIS

Bluewings at Belmont

LIKE so many farmers in the Northeast, Lyn Watson had a parcel of land that wasn't much good for farming. A typical "Back Forty," the area was hilly and hard to work—wet and a long way from the barn. Mr. Watson was interested and generous when the Belmont Conservation Club talked to him about converting the idle acres into a game management project.

That was 1950. Today (see aerial photo), thanks to club efforts, the wet draw has become a 1¼-acre lake, and the "Back Forty" a little wildlife area that attracts many interested sportsmen to Allegany County, site of the project.

One selling factor is that the job cost $600, a price many clubs could afford. Another is the type location; most farms have at least one unused corner. And the area's size, small enough to be developed by any spunky organization, is still large enough to be a significant community asset.

The contribution is many-faceted. On the pond's borders are two acres of shrubs. Four thousand young conifers poke their noses from the weeds. A hundred rods of fencing protects the entire area from grazing. There are bluegills for junior fishermen and a shoreline spot for summer evening picnics.

Most of all, perhaps, the project is conservation education at its best: On the land. Club members learned soil and water conservation the hard and lasting way—by doing. They found that to supplement member manpower, technical know-how and machinery are frequently available to clubs at reasonable rates—in this case from the Soil Conservation District which dug the pond. And Belmont has been only a beginning, for several other projects have been modeled after it, with a likelihood of more to come.

One week this quiet site was exactly like countless other odd corners that await development throughout the community backyards of our State. The next week the area fairly shouted that sportsmen can (and some will) do something more than buy a license to help their sport.

To bluewinged teal at Belmont, the new facility means even more; it means something for them where there was nothing at all before.

—J. D. BULGER

PATTERN OF PROCEDURE USED IN ORGANIZING PROJECT

(1) Appoint project committee to decide on a worthy conservation project for the area.

(2) Work up detailed plan for the project to be handed to the club for discussion. (In this case, the decision was made to acquire land.)

(3) Get club's authorization to acquire property.

(4) Land acquisition.

(5) Invite, to a club meeting, representatives of Soil Conservation Service, Farm Bureau, Extension Service, State Conservation Department (Fish & Game, Forestry, Stream Improvement, Fisheries). Ask for recommendations for property, and cost estimates.

(6) Get club's authorization to start work.

(7) Determine responsibilities, finance, insurance.

(8) Sign necessary agreements.

(9) Double check liability insurance.

(10) Begin work on project as recommended.

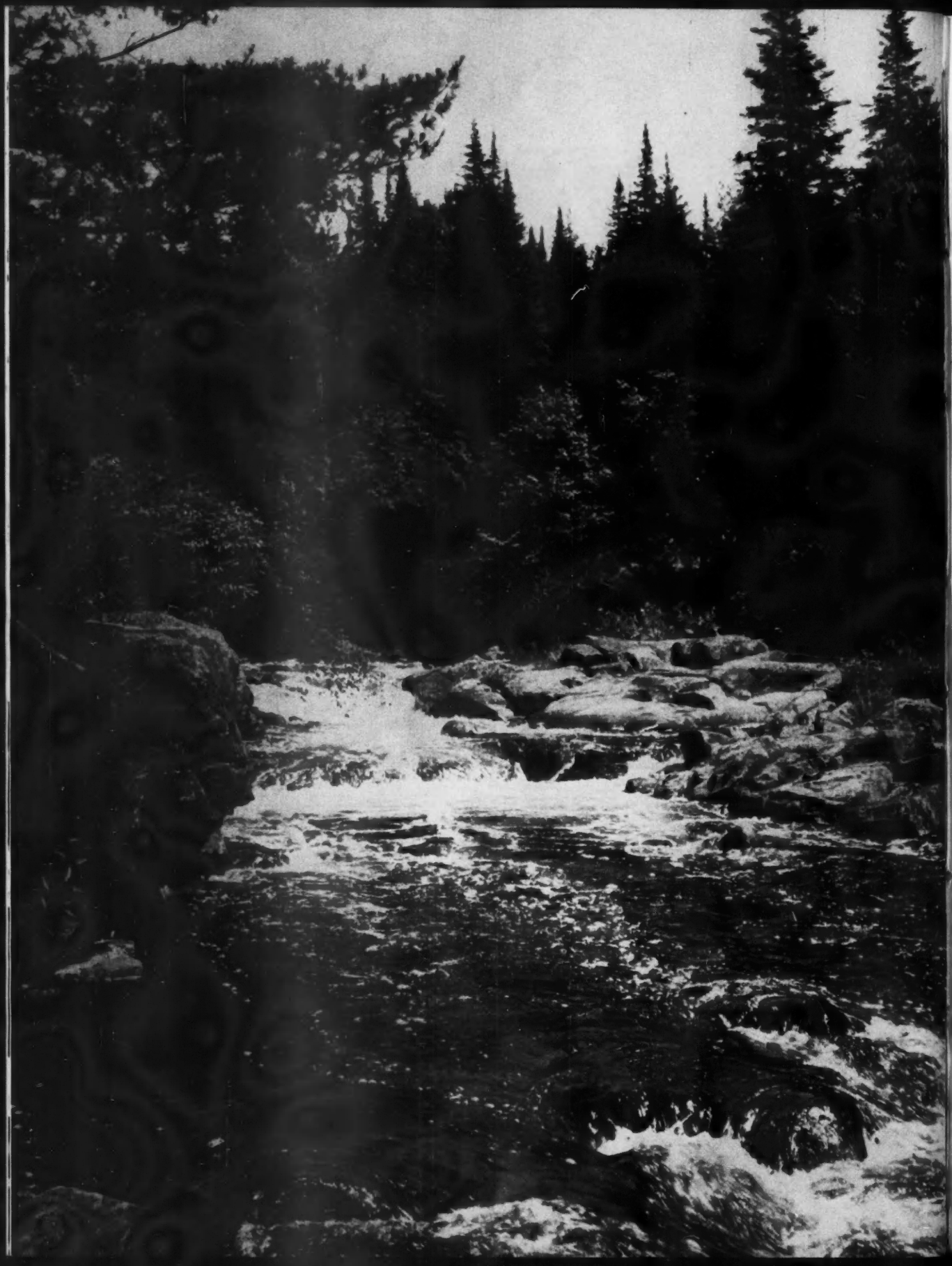
MATERIALS, MANPOWER, MACHINERY USED

80 h.p. Tractor with dozer blade (50 hours)
5½ Cu. Yd. Carryall Scraper (40 hours)
Drags for seeding
2500 Cu. Yd. of earth moved
120' of 6¼" Steel Casing for pond
Treated Posts for 100 rods of fencing
2 bu. rye seed
15# Cornell Pasture mixture on dam
1 Ton hay mulch on spillway
4 rolls 6' chicken wire
200 2"x2" wooden pegs to "wire down" mulch on spillway
500# 5-10-5 fertilizer
½ Ton ground limestone
4000 Red Pine
5000 Multi-flora rose
Other mixed shrubs from SCS nurseries
656 man-hours labor

ABOVE: With the pond completed, the bluewinged teal were quick to move in

RIGHT: A drawing of the upper end of the development, showing habitat for wildlife

LEFT: An aerial photograph of the project, showing the terrain in which it was built



Bear Swamp Creek, Cayuga County. Plenty of spring water and trout here

High Falls on the Oswegatchie, St. Lawrence County

What is a TROUT STREAM?

EVERY year around here (up to now at least), in early spring the snow melts, the rain comes down, and for a while there's plenty of water. All the streams are full and for a few weeks they all *look* like trout streams. And actually, for a few weeks, if stocked, they would all carry trout and provide some fishing—as would many of the transient pools in farmers' fields along the road. But only about one out of every four of those streams would carry trout throughout the year and thus qualify as real trout streams.

There are individual differences that explain why one brook qualifies as a trout stream while the next does not, and some of the principal differences are well known. These have mostly to do with water temperatures—temperatures themselves, conditions associated with temperatures, and adaptations of fishes to these conditions. Although temperature is pivotal, variables in the streams (especially in location, size and distribution of springs, speed of current, and fish populations) prevent consistent operation of definite temperature limits.

To illustrate the somewhat flexible influence of temperatures, the well-known authority, Dr. G. C. Embody, stated in 1926 that limiting high temperature for brook trout water should be 68°, for brown trout 75°, and for rainbows 80°. Yet five years previous to that he published an account of an experiment in which all three species survived exposure of a few hours to 83 degrees temperatures; half the brook trout survived for eight days with the temperature up to at least 78.8 degrees each day. It is apparent that Embody considered factors associated with cold temperatures to be quite as critical as temperatures alone. Recent experiments indicate that brook trout can tolerate temperatures in the neighborhood of 77 degrees indefinitely, but that by preference they will select temperatures between 57 and 66 degrees.

Several basic advantages to trout are to be found in the fact that, in general, cold stream temperatures in summer are associated with supplies of spring water. The important thing about a normal spring is that it has a relatively constant temperature, around 48 to 50 degrees at the source—which is cold in summer but warm in winter. The beneficial effects of warmth in winter are not generally recognized, but they are highly important not only to successful wintering of trout, but to successful spawning of both brook and brown trout.

While temperatures can get too cold for trout, they still prefer much colder

Salmon River above Malone, Franklin County. A placid section

The Boreas, Essex County. Ideal setting on a mountain type trout stream

Deflector concentrates, speeds and deepens Deer River, Franklin County

Upper Salmon, Franklin County. Better cover will help

Opening Day
on Catharine Creek, Schuyler County

water than the spiney-rayed, so-called "warm-water" species. Investigations have indicated that temperatures most favorable to brook trout metabolism are somewhere between 57 and 61 degrees. For smallmouth bass the most favorable temperatures are probably at least ten degrees warmer, and still warmer for largemouth bass and bluegill sunfish. Such differences are critical because they allow trout to compete successfully with the warm-water species when the water stays cool enough.

Of course factors other than temperatures and current operate to keep warm-water species out of some streams. In particular, highland streams are often protected by impassable falls. Such locations are characteristic of trout streams, but stocking and use of bait minnows has tended to spread a variety of species and has made barrier falls increasingly ineffective.

Chemical factors also deserve mention here, although they are seldom of critical importance in clean streams. Dissolved oxygen and carbon dioxide rarely limit trout in streams unless pollution is present. Since trout are generally less tolerant of pollution than associated species, the stream receiving pollution is less likely to be a trout stream than one free of pollution.

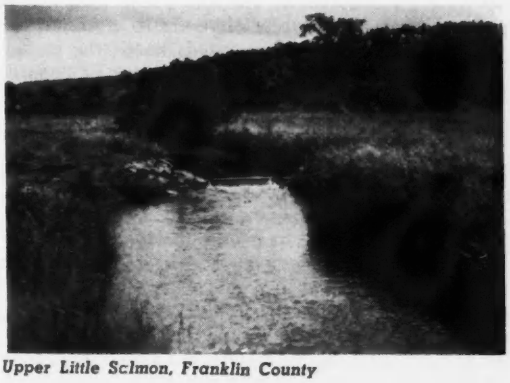
For many years fisheries workers argued about the effect of acidity and alkalinity (measured as hydrogen ion concentration, or pH) in trout waters. Were alkaline streams more productive? And what pH values would harm or kill trout? Experimentation has largely resolved this controversy, with the results showing that within normal limits pH has no significant effect upon trout production in streams. In the laboratory, brook trout have tolerated pH values from 3.3 to 10.7 without apparent adverse effects, and these are extreme values, not ordinarily found under wild conditions. It is safe to say pH values do not constitute a critical difference between trout and non-trout streams.

Although trout streams vary widely according to general terrain, size and general appearance, in late spring and summer a combination of individually slight, more or less intangible features, may suggest to the angler that "this is a trout stream." There is an extra sparkle to clear cold water; there may be here and there a cardinal flower or more likely some *Fontinalis* moss or some patches of water cress; and usually there's a nice coolness in the air. But one of the clearest criteria for recognition of a trout stream is the obvious one: You've guessed it—if trout live there, it's a trout stream.

—C. W. GREENE

A brook trout trying to jump High Falls on the Oswegatchie, St. Lawrence County

Bear Brook near Raquette Lake, Hamilton County. More water would help



Upper Little Salmon, Franklin County

Beaver on Pine Brook, Hamilton County

Cribbing helps hold the banks in agricultural lands of the upper Genesee, Allegany County

Opinion

RESTRICTIONS ON ANGLING

OUR present fish laws, whether good, bad or indifferent, are a direct outgrowth of the beliefs of sportsmen. Although the Conservation Department has opportunity to express opinion on proposed changes in legislation, it does not, except for certain regulatory authority re spearing, tip-up fishing and the like—set the seasons or other provisions relating to the taking of fish. Improvement of these laws, both to make them more effective and less complicated, has to be a matter of public interest if it is to get very far.

We anglers are choosey about fish. We want to catch big ones of game varieties.

Still our fish, as shown by scientific investigation, are very numerous in all waters of good natural fertility. The trouble is (as a large amount of research work on fish populations has clearly shown) that most of the fish poundage produced consists of non-game species, pan fish, or small game fish. It is possible in our waters for an icthyologist to compile a list of a hundred species of fish, small and large, including many that few anglers have even seen, much less caught.

Can we put together the three basic parts of the puzzle (the laws, the anglers and the fish) and see how restrictions might best be employed in the interests of improving fishing? We must bear in mind that although restrictions cannot produce fish, proper regulations may help to conserve them. For practical reasons, a perfect job of using restrictions to help manage fish resources is beyond the present horizon. From biological surveys of our waters and the fish in them, we know that a highly individualized system of cropping fish according to varying conditions of productivity would be ideal. But how complicated can we get? And yet a statewide, simple law based on "average" conditions will not fit every body of water any better than a standard sized suit of clothes, based on an "average man," would fit every male reader of THE CONSERVATIONIST. At present, the fish laws are neither complex enough to fit specific waters as a tailor-made garment nor simple enough to be easy to remember.

In expressing this opinion, I do not want to create the impression that our fish laws are especially complicated in comparison to those in other states. New York laws provide year 'round open seasons for a large number of angling species such as yellow perch, sunfish, rock bass and bullheads. Much of the "liberalization" of fishing restrictions in various states stems from removal of restrictions on these very species, or has been applied to game fish (such as black bass) only because of management considerations such as more rapid growth and shorter life-span than the same species has in our northern waters. In my opinion, any attempt to make sweeping changes in our restrictive laws would be unwise.

In considering what we might expect to weed out and what we might expect to keep, it is necessary to consider daily catch limits, length limits and closed seasons separately.

For the most desired angling species—for example, trout and bass—there clearly seems to be a need for restricting the daily catch. Although the average angler may rarely take "the limit," there are specially skillful anglers who, under good fishing conditions, could take far more than their reasonable share of game fish if allowed unlimited catches. In the case of the special muskalonge license (Chautauqua and Cattaraugus counties) a season limit of five muskalonge, enforced through use of self-locking seals, has worked well. As the other extreme, fish which are abundant and not easily depleted, require no daily or season limit. Many species of pan fish tend to overproduce to the detriment of game fish, and this is true even under present unrestricted daily catch limits for such species.

Size limits on fish, although generally accepted as desirable, are now being questioned by most fisheries biologists. Fish tend to produce far more young than restricted food and habitat can support properly as they grow larger. Canadian research workers report that in Alberta streams annual mortality of trout is at least 60 per cent, so size limits have been removed in order that anglers may harvest some of the excess. Some of our New York size limits have been based mainly on unsound thinking to the effect that we can have more big fish through protection of their young, regardless of whether scientific data indicates that such protection actually helps!

The fact is that too much protection may damage the resource it seeks to help. Anglers include many children and others far from skillful at precise identification of such confusing species as rock bass and smallmouthed bass. Through fear of the law many persons are cautious about catching common, unprotected pan-fish whose reduction would actually decrease competition and help game fish to grow. Moreover, entire bodies of water having stunted game fish are shunned by most anglers.

Large, predatory fish such as muskalonge and northern pike seem to require size limits, for they are relatively easy to capture and produce no excess of young in most waters. Moreover, as those managing farm ponds know, the predatory fish are a necessary control against an upset in population balance. This is just as true in larger waters.

Close seasons on fish are controversial for some species but there is a clear need of them by some game fish which are especially vulnerable during certain periods of the year. For example, if the over-all pressure is heavy, as in small lakes, the fishing of black bass on spawning beds may be entirely too successful. And stream trout, which congregate in headwaters to spawn, might be endangered by fishing through their spawning season.

Enough is known about fish and fisheries to point out certain sound objectives. We should broaden the whole base of utilization, cropping all species and sizes that can be harvested. We should avoid stagnation of fish populations where stunted. In brief, we need intelligent cropping. In this enterprise restrictions will, I believe, be needed as an imperfect but useful tool to shape a better fish management structure.

But because restrictions can never produce fish, they are, in my opinion, far less important than management of environment and fish populations. Nevertheless enough is known, I believe, to justify some restrictions—there are simply too many anglers today to permit a policy of absolute freedom. But let's not fence ourselves in any more than necessary.

—JOHN R. GREELEY, *Chief Aquatic Biologist*

CARP

THE BEAST

AMERICAN historians are pretty well agreed upon the contributions made to the development of our country by various early immigrants. The Irish, for instance, are credited with supplying the spirit and brawn required to lace our land together with a transcontinental network of railroads. The early Swedish immigrants, through their industry and know-how, were the backbone in the development of the great dairy and grain production areas of the midwest. Coke and the toil and sweat of Polish immigrants had about equal parts in the firing of our country's blast furnaces. And the Italians who came put their hands and lives into the steel and concrete skyscrapers of our cities.

But for another emigrant from Europe, the carp, there is not such a happy agreement among those most directly concerned—the sportsmen and the fisheries biologists—upon its contribution. We can agree, however, that it was second to none in its enthusiasm for its new home and aggressiveness in spreading its range. From its first introduction into our waters (Baltimore, Maryland—1876), the carp, assisted through widespread stocking by the old U. S. Fish Commission, rapidly found its way into waters all across the country.

Once established, the carp rallied all its capabilities to guarantee permanent residence. And the species isn't short on capabilities. It will live and thrive in waters too polluted or dirty for more fastidious food and game fish, yet is equally happy in the clear waters that most other warm water fish prefer. It feeds voraciously upon microscopic animal organisms, but when that food source fails it will turn with equal relish to a diet of aquatic vegetation. It produces eggs in abundance (up to two million per female) and the young carp grow at an astonishing rate; from fry to an average length of six inches in 40 days is the growth record in one western New York pond.

Armed with such qualifications the carp in less than four decades has become (1) one of the most widespread species of fish in the country, and (2) one of the chief headaches for fish and game administrators in many of our states.

On the headache side, carp are charged with some pretty serious crimes: (1) They are said to be guilty of eating the spawn of other fish. (They do, but they aren't specialists at such a diet and many of our food and game fish are occasional spawn-eaters too.) (2) Carp are also alleged to be responsible in a general way for the decline of fishing success in many waters. (It's possible, under certain circumstances, for this to be true, but often the carp offer a handy scapegoat while other more fundamental causes for such decline go unnoticed.) (3) Carp are also blamed for the wholesale destruction of aquatic vegetation, thereby removing escape cover for the young of game fish and upsetting the role of aquatics in the essential food chain. (In this latter charge, fishermen are joined by their waterfowling brethren who see the carp as despoilers of duck feeding grounds. And this too is true when carp become over-abundant.)

But this fish is not on everybody's black list. New York City's famous Fulton Fish Market sells thousands of pounds of carp each year for food—and it can be good eating. Carp enjoyed great popularity in China and in Europe as a food fish, and were propagated for that purpose. Fishermen themselves are discovering that carp, far from being a total evil, are a powerful challenge and a very sporting proposition, and archers are not only keeping their eye sharpened up for the game season but are having a summer-long field day shooting carp.

All this is by way of saying that carp here in New York, as elsewhere, are not wholly good nor wholly bad. There is a carp problem in many of our waters and, at the same time, the carp is one of our fisheries resources.

A large part of the solution of the carp problem depends upon further development and use of the species as a resource. This means greater emphasis upon—and further broadening of — the Conservation Department's present program, along the following lines:

1. Further encouragement of commercial fishermen to net carp from our larger inland waters. Last year, under license or permit, approximately 600,000 pounds of carp were taken in this manner.
2. Assist sportsmen's groups (through supervision and issuance of special permits) to net carp from local waters.
3. Continue wherever possible the netting of carp by Department salvage crews.
4. Publicize the food and recreational value of carp.
5. Broaden the opportunity for sportsmen to harvest carp by adding waters, under the annual spearing order, where carp may be taken by bow and arrow.

We recognize that neither these measures—nor in fact, any program the Department could devise or operate—will eradicate the carp in our waters. The carp is here to stay. But we are confident that continued pressure along these lines will assure adequate control to bring the species into line with its environment; make it more of a resource and less of a problem.

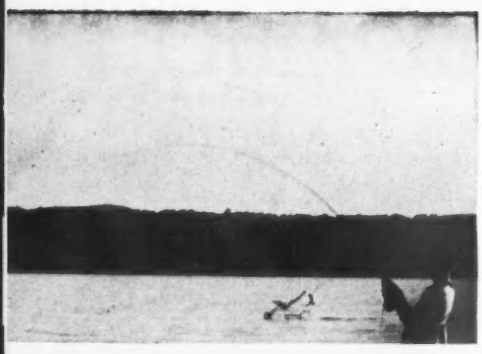
Moreover, we recognize that despite the things we know about this immigrant there is much more to be learned concerning its relationship with and effect upon other game and food fish in our waters. Therefore, as a sixth point in our carp program, we are establishing a pilot or experimental carp control project. Work under this project will commence this year in selected waters in various sections of the State.

—A. W. BROMLEY

FOR THE FLY FISHERMAN

by Scotty Little

ONCE you have taken a carp on the artificial fly, it becomes difficult to understand why this fascinating sport has been so neglected in the literature and practice of the fly-fisherman. Perhaps, like myself, other carp fly-fishermen are reluctant to tell their trade secrets, and to share their fun with the rest of the fly-fishing fraternity. For surely some other lucky fool, like myself, has



blundered into the field quite by happenstance. And perhaps some perceptive fly-fisherman, seeing a virgin and fertile field in which to practice his art, has entered the field by design; but if so, he has had sense enough to enjoy his fun and to keep his mouth shut. I haven't.

Take your heaviest rod—that 8½-foot, 6-ounce job that tires your wrist, and your salmon fly-reel. Splice on 100 yards of suitable backing to an HCH or GBF tapered silk line. Soak the line well so that it will sink quickly when you lay out a cast. Bend on a heavy nylon leader tapered to 8/5 (.013). Pick out your favorite wet fly pattern tied on a #4 heavy wire hook. (If you are not armed with the outlandish creations of the Cornell Fly Tyers' Club, use a McGinty. It will work.) Grab a gaff and your waders, jump into the car and head for a spot where the carp are schooling. In the Finger Lakes, this will be in the shallow littoral areas at the head and foot of the lake, in the shallow bays and coves, and over the bars at the mouth of each major tributary.

Pay no attention to the cruising carp. Concentrate on those which appear to be feeding. In the late afternoon or on dull, overcast days you should be able to wade within 50 feet of feeding carp before they take alarm. Get your line out without too much false casting and lay your cast just inside the feeding area. Depress your rod tip and wait for your line to sink. When you think the fly is fetching bottom, start your retrieve. Strip slowly at first, and gradually increase the speed of the retrieve, but *keep that fly deep*. Carp look below for food, not above. Sometime before the hundredth cast you should get a "follow" or a "take." This is selective fishing; you may foul hook a little one, but only the big ones "take."

Set the hook gently or you'll pop a tippet when he turns with the fly in his mouth. He is heavier than most of the fish you have hooked on a fly, and his first run may start your backing out through the guides and keep it going 'till you start to worry. Keep your fingers away from un-wet backing; you may get them burned. When you turn him, play him directly from the reel. Don't try to play him by stripping, or you'll be in trouble. Take it easy. It's going to be a long fight. I was tied on to one little twelve-pounder for more than two hours one evening last spring.

When your backing splice creeps back through the guides, you should begin to edge toward shore if you plan to beach the fish. However, you can shorten the fight in its less interesting phases by gaffing the fish. But loosen the drag on your reel first, and make sure that your leader loop knot is outside the tip guide, for if you prick him and miss he will be wild.

As I said before, no fisherman in his right mind likes to give away secrets as to how and where to have more fun and better luck. But right now there are plenty of carp for everybody—and *too many* for most people that are looking for other fish—so maybe it will do some good to tell you how to catch carp with a fly.

What do you do with him when you land him? I dunno. Perhaps you'll take him home and smoke him. But you'll not leave him on the bank to rot and smell, for he's a noble fish—taken on the fly.

FOR THE ARCHER

by William S. Gere and John Johnson, Jr.

ANY archer hunter will tell you that he gets more of a thrill from a close miss with an arrow than he ever got from a hit with a gun. It is not strange, therefore, that when we discover a sport which combines the best fun of archery, hunting and fishing, we have acquired an almost ideal pastime.

Carp shooting is a sport which meets the above specifications and also helps to get rid of fish which are considered by many to be a pest and a nuisance. The pestiferous carp frequents most of the waters of New York State south of the Adirondacks and in many of these waters they can legally be taken by bow and arrow. We discovered the sport several years ago somewhat by accident and have now developed it to a point where many shots can be had and a considerable number of carp taken—most readily in the spring of the year when they stage their annual spawning runs. They may also be taken almost any calm day between April 1 and December 1 if one knows where to find them and how to hunt them. But, except in the spring, it is by no means an easy matter to approach them close enough for a shot; hit them (making due allowance for refraction); then successfully boat them. But if one is accustomed to hunting and fishing, it is not particularly difficult to acquire the necessary archery know-how.

The case of an elderly gentleman living on the shore of Otisco Lake (who had never shot a bow until after his 65th birthday) furnishes a good example of what may be done by an inexperienced person. This man, a fisherman and hunter all his life, recently became interested in archery as a means of obtaining carp. He acquired a bow and arrows, put up a couple of bales of straw in his barn and practiced for a few days. He then started hunting carp, and in all our experience, we have never known another person who became so completely enthralled by a sport. He was at it morning, noon, and night, but in spite of all his efforts, it was several weeks before he finally landed his first carp —a nice fifteen-pounder. Once having learned the knack, he was able to take a great many. In fact, he hunted so assiduously that he practically elim-

inated the carp from a badly infested bay near his home. Many of these carp were smoked and eaten. In fact, quite a number of summer residents of Otisco Lake were induced to try eating the carp, either smoked or broiled, and practically all agreed that they were "not bad," providing the strong tasting red meat was thrown away and only the white portions cooked. It should be remarked, however, that Otisco Lake carp live in water which is used for drinking purposes, and that fact may have something to do with their edibility. At any rate, carp make excellent fertilizer —as is attested by the condition of one writer's garden which became the last resting place of many of the several tons of carp which have been taken by the bow from Otisco Lake.

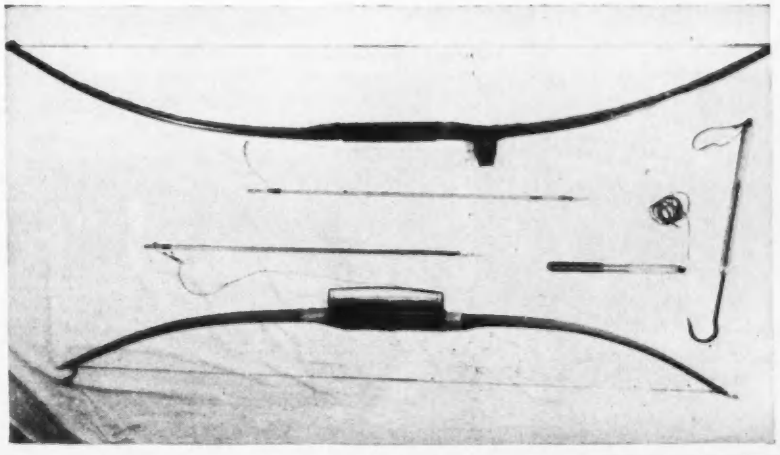
THE carp must be taken near the water surface, since it is impossible to shoot an arrow to any considerable depth. At certain times of the day they come in to shore to feed, and that is when we usually get them. We occasionally shoot them from the shore, but most of our hunting is done by canoe. One archer stands in the bow while the other paddles at the stern. When the archer sights a carp, he silently points his bow and the paddler noiselessly maneuvers the canoe in the direction pointed. Carp are extremely alert and wary fish and must be approached with great caution. No noise can be made, and any quick motion will send them scurrying.

The carp are retrieved by means of a stout nylon line tied to the tip and taped near the neck of the arrow and wound around a reel attached to the bow. Thus we do not leave dead fish lying in the water to decompose and become a nuisance. The reel may consist simply of two pegs projecting straight ahead and taped to the back of the bow, one six inches above and the other six inches below the handle, the upper peg slanting slightly downward and the lower peg slightly upward—just enough to allow the line to unwind without friction. A better arrangement is to use a single piece of very heavy wire, shaped by bending so as to function in the same maner as the pegs. A spool arrangement (as shown in the illustration on the bow at bottom) is sometimes used in place of the pegs or wire.

The arrow most commonly used is a plain birch or port orford cedar shaft with a sharp pointed barbed head, no feathers being necessary since all shots are at very short range. A heavy line of 48- to 60-lb. test is used in order to prevent loss of the relatively expensive arrow heads. A large carp puts up a real tough fight for a few minutes, and after he is shot, he must be "played" in much the same manner as any other large fish.

The writers (who hunt carp on an average of about once a week during the spring and summer) have taken an aggregate of more than three and one-half tons of carp in the past four years. The largest we have taken to date weighed twenty-seven pounds, but we hope to do better this year.

A considerable number of people who have observed the success we have had have already taken up the sport, and as the pressure of angling increases on our inland streams and lakes and game fish become scarcer, we predict that carp shooting will experience a steady rise in popularity. In any case, this is an excellent sport providing plenty of fun and exercise, and it is decidedly beneficial to other fishermen in that it tends to eliminate a nuisance. And it does not in any way endanger game fish.



CARP DERBY

Something new and good in fishing contests

RECENTLY we picked up news of a novel kind of contest being held in central New York—a bow-and-arrow carp derby. Sponsorship is by the Onondaga Anglers' Association and the Central New York Bowmen. Various prizes will be awarded for size (and we hope, the greatest number) of carp taken by an individual. The contest starts April 1 and ends May 31. Legal shooting hours are between 4 a. m. and 9 p. m., EST.

As was true before the hunting season, archery suppliers are again swamped with back orders. We know of one supplier who has back-ordered five to six hundred dozen arrows, so that many archers are having to use the homemade variety—a 20 penny nail soldered to a .38 calibre cartridge case, with two short steel barbs brazed to the sides. This arrangement fits nicely on a 11/32 inch dowel. Incidentally, feathers aren't necessary for fishing arrows, since the range of your target is so short.

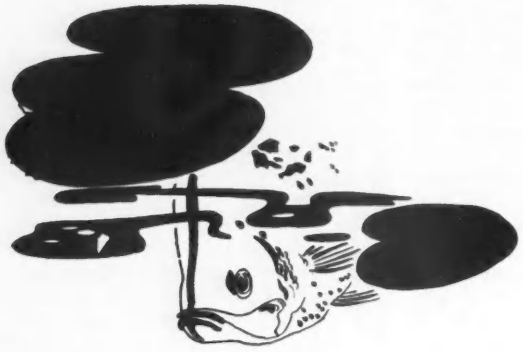
As yet we have not heard of any boundary limits for the derby mentioned above, but we assume they are in general—central New York. However, that shouldn't stop other clubs from initiating carp derbies; they are a move in the right direction.

In the past, many would-be carp shooters under 16 years of age have been misinformed on the question of whether they could legally use a longbow for carp-shooting. The law reads that persons who are required to possess a license to fish by angling must possess such license to take fish by use of spears or longbows. Thus minors under 16 (who do not require a license to take fish by angling) are not required to have such license to take carp, bullheads, catfish, dogfish, eels, garpike, mullet, suckers, herring, sheepshead, ling and whitefish by use of the longbow. This applies to all waters not inhabited by trout except as specifically prohibited. Your local Game Protector has a list of the trout waters.

The Conservation Department endorses this type of contest and hopes the carp derby idea spreads throughout the State. Who knows —it might be at least part of the answer to the carp control problem.

—DAVID G. ALLEN

THE BACK OF THE BOOK



SCATTERSHOTS AND DEPARTMENT ACTIVITIES

MEMO TO EDITOR

In connection with your well-known and omnivorous appetite for material that can be used in the magazine, let me offer the following little essay, the moral of which you can draw for yourself.

Under date of January 27, 1953, I received an air mail letter from a friend and correspondent of mine, Dr. Felix Richard of the Swiss Forest Experiment Station at Zurich. He reported that "There is a guy in Turkey who wants to get some seeds of white pine," and outlined briefly the climatic characteristics of Istanbul. (Of course, the latter makes no more difference than would the climate of New York City to reforestation up-state, but it was all the data he had). Could we help the guy out with a pound of (free) seed?

So I asked "Pete" Amadon, (Supt. Bureau of Nurseries) if he had enough white pine seed so that he could contribute a pound to a worthy cause. Pete opined that he had a good supply at Saratoga and would let loose a pound without somebody twisting his arm. O.K. On February 4th I wrote to Professor Doctor Fikret Saatcioglo at Istanbul, telling him that we had a spare pound from the Lake Champlain area (climate described in some detail), if it would do.

On February 13th I get back word from the Professor Doctor that the seed would do O.K., and would we please send it along.

It's getting toward spring now and Pete Amadon has misgivings about sending the seed by parcel post—too slow, wouldn't get there in time, might germinate enroute. Besides, there are complications in export and import permits.

So we call on our old friend Fred Herbst, the seedman, who knows the angles. Fred says sure, he'll ship it for us, and by air, so it gets there quick. Today (Feb. 27) Eli Eliason, in charge of the Saratoga Nursery brings the seed down from Saratoga and out it goes to Herbst.

Maybe, some day, little white pine trees from Lake Champlain will grow somewhere in Turkey, with no weevil (we hope) and no blister rust (maybe).

—Dave Cook

CLOSED FOR ALTERATIONS

Fireproofing operations made necessary by the blow-down in the Adirondack area have been substantially completed on all public campsites, recreational trails and canoe routes. The only facilities in the Forest Preserve area, remaining closed to public use in the Adirondacks are as follows:

Hamilton County: Red trail from Poverty Hill on Blue Mountain-Long Lake Highway to Terrell Pond; trail from Big Moose to Twin Sister Lakes; trail from Twitchell Lake to Terror Lake. Northville-Lake Placid trail from Plumley's camp on Long Lake to Moose Pond.

Essex County: All trails leading through or to the Duck Hole, Cold River and Raquette River section between Axton and Long Lake; the trail from Whiteface Landing to the summit of Whiteface Mountain; Northville-Lake Placid trail from Plumley's camp on Long Lake to Moose Pond near Averyville.

Herkimer County: Trail from Beaver River Flow to Salmon Lake; trail from Twitchell Lake to Terror Lake.

St. Lawrence County: The Pine Ridge-Nick's Pond trail; trail from High Falls on Cranberry Lake Inlet to Five Ponds.

All active and proposed salvage areas were originally posted and closed to are completed, these areas are being opened to public use, and many of them are now open. Information as to the location of the areas open or closed to the public may be obtained from any of the offices of the District Foresters at Lake George, Northville, Ray Brook (formerly Saranac Lake), Herkimer, Canton and Lowville. Announcements will be made through the press from time to time when fireproofing operations have been completed on any of the closed trails listed above.

Perkins Clearing again

IT'S IN THE SCHOOLS

So far as we know, to Chatham Union Free School at Chatham, Columbia County, goes the honor of being the first public school in the State to include in its curriculum a course to teach students how to safely handle firearms.

Mayor Thomas Callahan, a past president of the Columbia County Federation of Sportsmen and a qualified National Rifle Association instructor, and Harold Davis, vice principal, are giving the instructions—Mr. Callahan the NRA course necessary to qualify for a hunting license, and Mr. Davis pointers on the Conservation Law.

Open to all students from 14 to 21 years who are interested in acquiring their first hunting license, the enrollment of 76 includes a number of girls. Thirty-four out of thirty-five qualified in the first group and the remaining forty-one will complete the four-hour course of 40 minutes a week in the last seven weeks of the school term.

The course, approved by the Board of Education, also has the support of the Federation. Actual experience in firing is given at the Chatham Rod and Gun League's range near the village.

WOODCOCK NESTS

Dear Editor: It would be greatly appreciated if the attached note could be inserted in the April-May issue of THE CONSERVATIONIST.

As a result of similar notes published in 1951 and 1952, twenty-two nests were reported to me (nine in '51 and 13 in '52). I've never found more than a half-dozen nests in a season, myself, working with a dog, so this help is a Godsend.

—CHARLES P. BROWN, *Delmar*

For the third consecutive year New York State readers who happen upon woodcock nests or newly-hatched broods are requested to drop a card to Charles P. Brown, Wildlife Research Laboratory, Delmar. Please mention date the nest or brood was seen, and the number of eggs or chicks. The response from readers in past years has been gratifying, and the information supplied has helped measurably to increase the number of woodcock banded.

IN LINE OF DUTY

Memo from Protector Maynard Ryther to District Game Protector R. J. Vickers, concerning work other than law enforcement performed while patrolling on Lake George with State Boat #12.

June 20: Towed a sailboat to safe water near Hulett's Landing. Accompanied by Protector Ralph Steele.

July 24: Helped two women stranded in motor boat in Paradise Bay. Got their motor started so they could get back to Bolton Ldg.

July 29: Raining; lake rough. Looked for and found young boy with canoe and brought him to Bolton Landing where his parents were anxiously waiting for him.

Aug. 1: Towed a Chris Craft motor boat off a rock ledge north of Bass Island. Brought it to Glen Island.

Aug. 5: Picked up two boys from Long Island, N. Y., that had tipped over in a canoe.

Aug. 6: Accompanied by Ranger Leonbruno, looked for two men from Echo Lake lost in a canoe. Found them at midnight in North West Bay.

Aug. 9: Towed outboard motorboat with man and wife to shore where motor was started. Lake very rough.

Aug. 11: Picked up NYC fireman named Chikowski and 11-year-old boy named Swartz from an overturned canoe and returned them to Bolton Ldg.

Aug. 14: Investigated forest fire complaint with Ranger Leonbruno on Tongue Mountain. Fire found and put out.

Aug. 15: Worked with television crew for Conservation Education.

Aug. 16-20: Worked with State Troopers dragging for drowned person.

Aug. 20: Accompanied by State Troopers Schneider and Rembrac, picked up Harold Grief, 39 years old from NYC, from an overturned canoe and returned him to shore.

MONUMENT IN STONE

In the hills of the Austerlitz Mountains in Columbia County, near Red Rock, stands a pile of stones. It is about 7½ feet tall and 10 feet around at the bottom. Most of the stones it contains are flat pieces of slate or shale rock.

Charles Reynolds, who has lived in Red Rock all his life, is responsible for this pile of rocks—or monument, as I prefer to call it. Charlie is now around 83 years old and doesn't do very much hunting and fishing anymore, but in his younger years he spent much of his time hunting or trapping in the hills near his home. It was on one of these trips when Charlie started his monument. First, he placed a few stones and every time he passed there on future trips he would add a few more, until the pile grew to its present height. Charlie might have made it higher, but being a short man he probably went to the limit of his reach.

I don't know how long ago the final stone was placed on top, but hunters have told of seeing it there 20 to 25 years ago, so it seems to be standing the test of storms and time in good shape. Charlie doesn't get up in the hills to see his masterpiece anymore. His hunting trips are mostly limited to getting rid of the woodchucks and other pests in his backyard garden.

Now and then I pass by and stop to look at this pile of stones. I think of the patience he must have had and the number of trips he must have made to complete it; also the enjoyment he must have found during the hours he spent in the woods. But as I look at it, it becomes more than just a pile of stones, because to me it appears as a monument to a real woodsman.

—JOHN HELLIWELL, *Chatham*

Salmon of Lake George

THERE are more and larger salmon in Lake George than ever. The reason for this is no mystery—the planting of yearling salmon in tributaries. The establishment of good angling for landlocks is a matter of keen interest to anglers who fish in the clear waters of this lake, but the fact is that if success is at hand in one body of water the management methods employed there are likely to be useful in many other waters. Hence, the present favorable salmon situation in Lake George is of general interest.

Lake George is a large body of water (over 28,000 acres) and has a good supply of forage fish, especially the native "whitefish." This is really a small type of cisco, rarely over 7 inches long. Early efforts to build up landlocked salmon met with limited success; although the growth rate was good, the abundance was unsatisfactory, and for many years the capture of a "landlock" was most unusual. Natural reproduction was almost a failure and stocking efforts produced unsatisfactory results.

In 1948, as a part of the Department's "Landlocked Salmon Project," a planting experiment with yearling Atlantic salmon was started and 4,500 were stocked in three tributaries of Lake George. Of these, 3,000 were marked by the harmless operation of removing a fin. Three fins were used: Adipose for the fish planted in Hague Brook; left ventral (Northwest Bay Brook) and right ventral (West Brook). In subsequent years it has been possible to increase the stocking to an average of about 20,000 salmon annually, and other fin-clipping experiments were made in 1950 and 1951. The salmon planted averaged only about 150 per pound, but put on weight rapidly after they migrated from streams into Lake George.

Last fall, during the spawning season, salmon were netted to yield spawn but also something else—information. It was observed that 42 per cent of the 132 salmon netted had a missing fin. Allowing for the many salmon planted without fin clipping, it is entirely possible that *all* of the unmarked salmon in the sample could have been hatchery fish. In fact, mathematical probabilities are against the possibility that natural reproduction contributed materially. (Exact calculations can be made after the time-consuming work of determining ages from scale samples—and figuring ratios of clipped fish planted and recovered for each year—has been completed.)

Much other information of value was secured. For example, the adaptability of Atlantic salmon in lakes is a useful point to determine. The supply of eggs from sea-run salmon being more abundant than the supply from resident fresh-water salmon, it is good news to learn that "landlocking" need not be a time-consuming operation. The special virtues, if any, of landlocked salmon whose freshwater residence dates back many generations will require further study, but in view of the fact that eggs taken in 1951 and 1952 from Atlantic salmon in Lake George were of excellent quality, there is every reason to conclude that salmon are not dependent upon a salt water stage of existence.

The spawning habits of salmon in Lake George are abnormal, but this fact is not correlated with the origin of the stock. The probable reason for this is evidently most related to water conditions in tributaries. These streams are small and chill quickly in the fall, whereas the lake is large and remains warmer than its tributaries at that season of the year. When rains come at the proper time, salmon may ascend some tributaries (as indicated by a good run in Hague Brook in 1951). Under the severe drought conditions of the fall of 1952, there was no evi-

Above, male salmon showing normal fins. Below, fin-clipped.

dence of salmon runs in streams; the fish came inshore, but evidence of normal spawning behavior was lacking. The taking of eggs for propagation is therefore in no sense a robbery of natural spawning under the conditions which prevail in Lake George.

This matter of taking eggs was of great interest to the many persons who dropped in to see the fish in holding net or live box at Lake George village. As soon as they are taken from the nets, the salmon are inspected. Females which are "ripe" are stripped of eggs, immediately fertilized by stripping milt from a male. Salmon not quite "ripe" are held for a few days. Each day the eggs are taken to the Warrensburg Hatchery.

All immature salmon and adults used in the spawn-taking operation were measured and tagged before liberation. A few tag recoveries from the 1951 netting operation were secured from anglers or in the 1952 nets. With a larger number now tagged, it is expected that more information on migration and growth will result. But that will depend on you; if you catch a tagged salmon, please report its number, length, weight (if known), place and date of capture.

Scale samples taken by scraping off several scales were collected for all salmon handled. Anglers can help accumulate useful information by saving similar scale samples, and by making a check of all fins and by reporting any one that is missing.

Several interested individuals of the Lake George area materially assisted our operations this past year by observing the presence of salmon and then indicating good places to set the gill nets. The exploratory netting operations carried on by Martin Pfeiffer and K. T. Dempster of the Adirondack Fish Management District, supplemented by setting of trap nets by a fish salvage crew, indicated that gill nets were much more effective than trap nets for taking salmon. The lake produced over 120,000 eggs which, with better than average results in both Schroon River and Upper Saranac, gave a record total of over 160,000 (about 40 quarts). With the successful Lake George netting and a check of survivals of previous plants now a matter of record, we can look ahead to putting the progeny from these eggs to good uses. Such uses include further stocking by tried methods, and experimenting with other methods adapted to the various lakes waiting to produce salmon fishing if and when the necessary knowledge to develop successful management is at hand.

—JOHN R. GREELEY

CAMPSITE CARETAKER

SALARY: $214 per month during first year of service. Increases to $256 during second and subsequent years. Salary includes the present cost of living adjustment.

CIVIL SERVICE STATUS: Non-competitive class of civil service. No competitive examination required.

POSITIONS (NUMBER AND LOCATION): There are 43 positions in this title, one assigned to each public campsite in the Adirondack and Catskill Forest Preserve.

PROMOTION OPPORTUNITIES: No direct line of promotion to higher grade positions, although employees can compete in open-competitive examinations for positions for which they are qualified.

WORKING CONDITIONS: Duties performed out-of-doors at a public campsite. Position is seasonal in character and period of employment is from about Memorial Day through Labor Day. There is no basic work-week; employees receive one day off in seven. Living quarters are provided. No vacation allowance unless period of employment exceeds four months; vacation then earned at the rate of two days for each month employed. One day of sick leave credit each month. Unused sick leave is accumulative to a maximum total of 150 days.

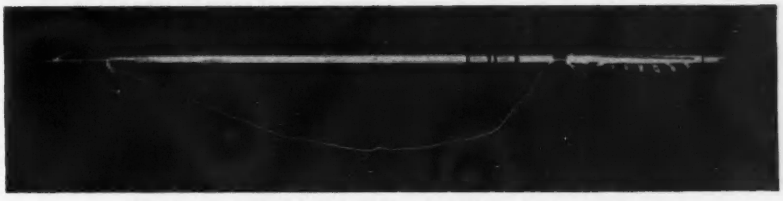
RETIREMENT: Membership in Retirement System is mandatory. Employee contributes on a payroll deduction basis. Variety of benefits are offered.

DUTIES: Under the general direction of a District Forester, has charge of a public campsite, including the supervision of other seasonal personnel assigned to the campsite. Registers campers and assigns them to a campsite area. Collects camping fees and maintains appropriate records of such fees. Enforces departmental regulations governing use of campsite by the public. Maintains campsite in a clean condition. Assists campers by furnishing information and providing help in emergencies. Maintains bathhouses, toilets, and other campsite structures in a clean condition. Maintains records of public use of campsite and picnic area and submits regular, periodic reports to the District Forester.

QUALIFICATION REQUIREMENTS: Physical—Good physical condition and freedom from any mental or physical defects which may impair proper performance of duties. Must be at least 18 years of age. *Education:* Ability to read and write. *Experience:* No specific experience, although employees should have experience involving sufficient public contact to permit them to satisfactorily perform the duties of this position. Must possess a valid New York State motor vehicle operator's license.

SPECIAL KNOWLEDGES AND SKILLS: Good knowledge of the area served by the campsite to which assigned. (As a matter of policy employees are generally recruited from among residents of the county in which vacancy exists.) Ability to meet and deal with the public courteously and efficiently. Ability to follow directions, and to keep simple records. Possess resourcefulness, alertness, industry, good judgment, and good sense of public relations.

NEXT ISSUE: *Marine Fisheries Protector.* —WILLIAM E. TINNEY



If you're an archer after carp (see page 27) here's what you want

WONDER FISH

Addition of the wonder drug aureomycin to their food has resulted in larger and healthier fish at Canada's Jasper National Park fish hatchery. Three thousand fingerling eastern brook trout given the compound (which contains aureomycin and vitamin B-12) averaged a quarter inch longer than trout fed in the normal way—and used less food to produce the same weight. Losses among fish fed the usual food diet were three times higher than among the drug-fed.

It was found the compound is inexpensive, cuts food costs and decreases the time necessary to bring the fish to a size large enough to be planted. A similar experiment is continuing at Banff National Park.

Sylvester Hoch of Martinesburg, while hunting rabbits near Maple Ridge in the Tug Hill area, killed this huge bobcat with one charge of number sixes. The animal weighed 38 lbs. dressed, measured 38 inches from tip of tail to nose. Live weight, it might have been a state record.

HARE TRANSFER PROJECT

Field personnel concerned with PR Project W-65-D2, "Re-establishment of the Varying Hare in Unoccupied Range," are finding that other aspects of trapping white rabbits vary with as much certainty as the peltage of the animals themselves.

Trapping conditions during the past winter have proved to be extremely difficult. Inaccessible areas in the Adirondacks reflected a great disparity in snowshoe abundance that may be indicative of a downward trend in the number of rabbits throughout the rest of the State. Urbanites speak with enthusiasm about our mild winter, yet the Tug Hill Plateau dished out some 36" snow depths accompanied by extremely high winds that suspended entirely the trapping operations for several weeks during this past February.

To date a total of 465 hares have been trapped, tagged and released in suitable habitat at seventeen release points throughout the State. These small initial releases made under these conditions and given adequate protection will, we feel, make a real contribution to the hunting afforded by the varying hare. —JOHN E. WILSON, *Dist. Game Manager*

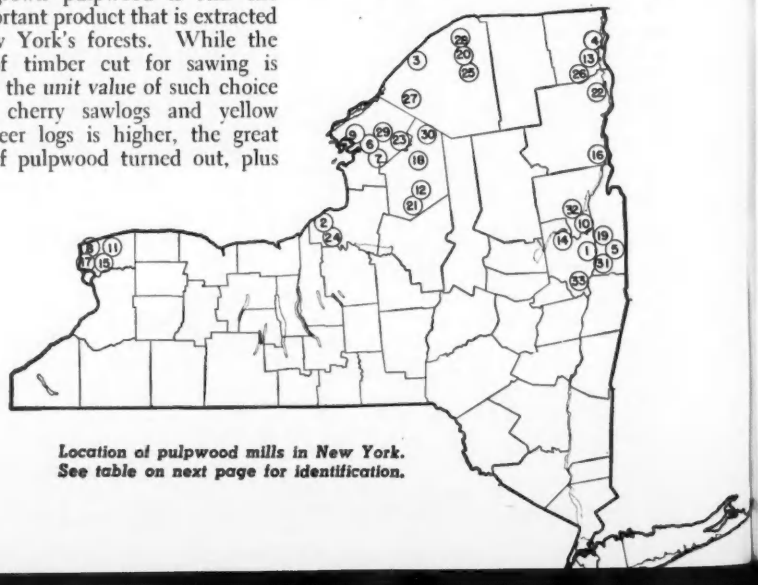
PULPWOOD MARKETS IN NEW YORK, 1953

UNDER New York's Forest Practice Act, the Conservation Commissioner is required to provide to co-operating forest and farm woodland owners several technical services, among which is marketing assistance. In order to do this and to adequately answer the many requests for specific information that come in to us, we continually collect, compile and distribute information on markets for forest products. The report presented here is intended to be helpful to anyone interested in selling pulpwood. And inasmuch as pulpwood production is centered in the Adirondacks, we hope it will help the rest of our readers to clarify their thinking about the Forest Preserve, the Paper Industry and the whole subject of Conservation.

Here in New York, the backbone of our forest economy is our great paper industry. Originally, this was based on an "inexhaustible" supply of native spruce. But the drain has been long and merciless, so that our resources of that most-wanted pulpwood species has been sadly depleted not only in New York, but throughout the Northeast. The reasons for this reduction in spruce are many and complex. Because of our abundance of clean water and electric power, our good transportation and our superior markets, we built more pulp mills than our spruce forests could permanently supply. Biologically, our rather slow-growing spruce is at a considerable competitive disadvantage with the faster-growing hardwoods, which tend to crowd it out every time there is a disturbance—man-made or natural —in the forest. Even today's efficient logging and forest management cannot entirely bridge the gap between growth and drain. We now have to import 80 per cent of our raw material either as pulpwood from neighboring states and Canada or as lap (crude pulp) from Scandinavia. Even so, local supplies still account for a fifth of our total pulpwood consumption.

Home-grown pulpwood is still the most important product that is extracted from New York's forests. While the *volume* of timber cut for sawing is larger and the *unit value* of such choice items as cherry sawlogs and yellow birch veneer logs is higher, the great amount of pulpwood turned out, plus the very *high* "*value added by manufacture*" in converting it into paper, makes it of prime importance. Pulpwood is cut to a much smaller size than are sawlogs, the usual specification being 4 inches in diameter at the small end and 4 feet long.

There are 33 pulpmills in New York. They range in size from little fellows using 400 cords a year to giants consuming that much every day. Four of them are situated in the Niagara Falls area, one on the St. Lawrence River. Two are on the Battenkill, which runs out of Vermont and emp-



Location of pulpwood mills in New York. See table on next page for identification.

ties into the Hudson. All the rest are situated along the rivers that flow out of the Adirondacks. Two mills in Pennsylvania and one in New Jersey draw small amounts of wood from nearby areas in New York. Of our own mills, two buy only Canadian spruce, one buys only Canadian poplar, one can fill its requirements from its own lands and so does not buy in the open market.

Most New York mills were originally designed to use either the sulphite or groundwood process on softwoods, or the soda process on poplar. Because of the relative scarcity of softwoods and the over-abundance of hardwoods suitable for pulping, there is currently a strong trend toward semi-chemical processes. These can use a wide variety of wood and turn out a much higher yield of pulp per cord of pulpwood, especially from the heavy northern hardwood. Because of its light weight and relatively low yield per cord, we can probably look forward to a decline in the use of poplar. A few mills use wood to make a rather coarse pulp suitable for fiberboard and paper felt.

Generally, our mills make high-grade or specialty papers—printing, converting, writing, tissue—rather than the cheaper wrapping and newsprint. In fact, New York has not one single mill now making newsprint; it all comes from Canada.

Because of the many mills and the wide variety of processes, our pulpwood markets are very diverse. The mills that are located in (or which draw wood from) New York State use almost every kind of tree that we grow—spruce and fir, hemlock, pine, poplar (known in the trade as *popple* and often including basswood and butternut) and northern hardwoods (mostly beech, birch and maple). Some mills buy it with the bark on (rough); others require that it be peeled; some buy both kinds.

For the same reason, the exact pattern of pulpwood purchase is quite complex. As most of our plants use the sulphite or the groundwood pulping process, by far the greatest demand is for spruce and fir, bought by 22 mills. Hemlock is purchased by three New York mills and one in Pennsylvania, while pine is used by three of ours and one mill in New Jersey. Popple has long been an important pulping species, but its use is declining; nine New York mills and one Pennsylvania outfit use it. Of northern hardwoods (the use of which is expanding rapidly) nine of our mills and two in Pennsylvania are buying it this year.

If you are interested in selling pulpwood, our chart and map will help you in locating possible markets. But remember that the demand for wood by any particular mill or group of mills fluctuates wildly, due to unpredictable factors like consumer demand for paper and the relative availability of raw material. The only safe way to sell pulpwood is to ask your local wood-buyer what he will be prepared to take at the time you want to sell. Your District Forester will be glad to help, too.

—Dave Cook

PULPWOOD MARKETS IN NEW YORK, 1953

		Spruce & Fir		Hemlock		Pine		Poplar		Hardwood	
		Rough	Peeled	Rough	Peeled	Rough	Peeled	Rough	Peeled	Rough	Peeled
1. American Wood Board Co.	Schuylerville		x								
2. Armstrong Cork Co.	Fulton					x		x		(1)	
3. B-F-D Company	Ogdensburg							x	x		
4. B-F-D Company	Plattsburgh	x(2)	x(2)						x	x	x
5. Blandy Paper Co.	Greenwich		x								
6. Brownville Board Co.	Brownville		x(3)								
7. Brownville Paper Co.	Brownville		(2)								
8. Certainteed Products Co.	Niagara Falls									x	
9. Dexter Sulphite P & P Co.	Dexter		(2)								
10. Finch, Pruyn & Co.	Glens Falls	x									
11. Flintkote Company	Lockport									x	
12. Gould Paper Co.	Lyons Falls	x	x	x	x				x		x
13. Imperial Paper & Color Co.	Plattsburgh						x				
14. International Paper Co.	Corinth		x						x		
15. International Paper Co.	N. Tonawanda								x(2)		
16. International Paper Co.	Ticonderoga		x		x		x				x
17. Kimberly-Clark Corp.	Niagara Falls		x								
18. J. P. Lewis Co.	Beaver Falls	x	x							x	x
19. Marinette Paper Co.	Fort Miller		x						x		
20. Martin P & P Co.	Norwood	x									
21. Moyer & Pratt, Inc	Lyons Falls	x	x								
22. New York & Pennsylvania Co.	Willsboro								x		x
23. National Paper Products Corp.	Carthage	x	x					x	x		
24. Oswego Falls Corp.	Fulton		x								
25. Raquette Falls Paper Co.	Potsdam	x	x								
26. J. & J. Rogers Co.	Ausable Forks		x								
27. Rushmore Paper Mills, Inc.	Natural Dam		x(4)								
28. St. Lawrence Paper Corp.	Norfolk	x	x								
29. St. Regis Paper Co.	Deferiet	x	x								
30. St. Regis Paper Co.	Harrisville		x						x		
31. Stevens & Thompson Paper Co.	Greenwich	x									
32. Warrensburg P & P Co.	Warrensburg		x						x		
33. West Virginia P & P Co.	Mechanicville	x	x	x	x						x
34. Hammermill Paper Co.	Erie, Pa.	(2)	(2)	x						x	
35. New York & Pennsylvania Co.	Johnsonburg, Pa.								x		x
36. Flintkote Company	Little Ferry, N. J.					x					

1) Basswood, cherry, elm; (2) Canadian wood; (3) Does not buy direct from producers; (4) Spruce & fir from own lands.

LETTERS

TO THE EDITOR

DAM AT DOWNSVILLE

Dear Editor: My friend and I have a piece of land, 201 acres, near Walton, N. Y. We heard recently of the new dam being built for a New York City reservoir near Downsville. Our place is outside of Granton, making us wonder how and if this project will affect us. We hear rumors, and talk, on the occasional trips we make up there from Long Island where we are living at present. We plan to move up there soon.

Perhaps you can inform us as to its affecting us or let us know where we may obtain such information. A rumor has it a lake will back up to our property. If so, can we fish in this man-made lake? How about swimming or boating, etc?

Richard C. Johndy, Babylon

● *We can advise you that there are plans for a reservoir on the West Branch of the Delaware River. The proposed dam would be about four miles below the Village of Cannonsville. It would back up water to the vicinity of Rock Rift. If your property at Granton is below elevation 1,150 feet, it would definitely be inundated when impoundment was effected. If above this elevation, it might still be taken over as a marginal area around the reservoir.*

This proposed site is under consideration by both New York City and Incodel (Interstate Commission on the Delaware River Basin). The Incodel program would depend upon an agreement of the four states in the Delaware River Basin: New York, Pennsylvania, New Jersey and Delaware. A project under Incodel sponsorship is very much in the future.

However, consideration by New York City has more immediate possibilities. Plans have already been approved by the State Water Power and Control Commission. Previously, when New York City wanted to take water from the Delaware River, Pennsylvania objected and the case went to the U. S. Supreme Court. The Court ruled that the City could take a limited amount of water but left the door open for reconsideration if New York's water requirements increased.

Last spring, New York did appeal to the Supreme Court for permission to divert additional water. It often requires a year or more for the Supreme Court to render a decision. If permission is granted, I feel that New York will proceed rapidly with its plans.

It is required by State law that boating, fishing and ice cutting be permitted on all reservoirs or natural lakes used by New York City for water supply.

The enclosed reprint from The Conservationist *presents some of the problems the Conservation Department is up against in these situations. You will be interested to know that the Department is now working on plans which, we hope, will incorporate the multiple use idea much more than in the past. And, of course, from the Department's point of view, a more liberal consideration of the recreational feature is one of the main objectives.*

—Cecil E. Heacox, Sr. Aquatic Biologist

RATTLESNAKES

Dear Editor: In your last issue of The Conservationist there was an article on rattlesnakes. In this article you mentioned different places in which rattlesnakes are found.

For the past six years I have been going up to the Adirondacks (between Tupper Lake and Saranac Lake). At these towns I have asked different residents if a rattlesnake or any other poisonous snake had been seen or killed. Their reply was always "no", and a few people even said poisonous snakes don't come this high.

I wish you would give me the answer: Are there poisonous snakes of any kind around the areas of Tupper Lake and Saranac Lake?

Richard T. Moran, Monroe

● *None that we've heard of.—Editor*

Gentlemen: Was very much interested in your article about rattlesnakes in the Feb.-Mar. issue, since I have for years had a snake or two around during the summer and fall months and once in a while I winter them over. This is quite a resort area, and you would be amazed at the number of people from the city who may have heard of rattlesnakes but were sure that it was just a fairy tale.

On page 25 you state: "Color of male, brown to blackfish." This I take exception to. But anyway, a few years ago I had a typical blackish snake in a box about six inches deep (with a quarter inch mesh screen on top) in the woodshed at our summer camp. Getting up to go to work one morning I found 16 young in the box and 2 outside on top of the screen. Whether there were any more that went through the cracks in the woodshed floor I don't know. At any rate I had 18, and kept them until around December at which time they were about 9 or 10 inches long. I have any number of witnesses to the whole operation. Incidentally, the little ones from the first day had a typical rattlesnake disposition.

Richard Howell, Hancock

CAMPSITES

Dear Sir: In the Feb.-March issue of The Conservationist, there is an article by A. T. Shorey, called "Family Tent Camping."

Upon quoting the article we find, "There were 8,435 campers turned away during the season because all facilities were occupied. This calls attention to the fact that the Bureau of Camps and Trails has had a constant struggle for the past 25 years to keep up with the demands of the public for camping sites, and confirms the idea that tent camping is a way of life which many New Yorkers enjoy when the problems of site, sanitation, pure drinking water and protection are taken care of for them."

Because I happened to be one of the unfortunate 8,435 who were turned away, I believe elaboration on this point is a necessity. In the first place, the article leads us to believe that only New Yorkers enjoy our campsites. It would be interesting to find out the proportion.

There is nothing more discouraging than finding a "no vacancy" sign hanging under the campsite sign, when, upon investigation, we find the campsite half filled with out-of-state license plates on cars. Driving on to the next campsite (which we didn't want to go to, but now have to), we may find the same type of sign—"no vacancy"—again starting at us. It is not a very pleasant feeling.

At this point, I would like to ask this question: How can you tell how many people were turned away when those signs are self-explanatory and people do not even investigate, but drive on?

There is no question about the fact that we need more campsites, and realizing they are costly projects to construct (as well as maintain), I am in agreement, to a certain extent, with the fee for their use. However, in my opinion the out-of-stater should pay his just share. I suggest a fee for residents of 50c, as it is now, and for non-residents $3 per night for a maximum of six persons. This would help offset the cost of new construction and at the same time help the resident get the site he deserves.

Carl J. Butch, Schenectady

● *Many of Mr. Butch's points seem valid, but how far can and should the State go in meeting public demands for such services as campsites? We doubt if discrimination against out-of-staters would solve the problem, because our resident supply-and-demand situation for campsites is critical in itself—even without the influx of out-of-staters. This problem calls for some clear and long-range thinking. We will have something more about it in our next issue.—Editor*

BLOW-DOWN INQUIRY

Dear Editor: As a member of the New Hartford Garden Club I am interested in the conservation problem affecting our Forest Preserve. In your reply to a recent article by Mr. Reid of Sabattis you state that the contract was approved by some private group. Will you kindly tell the name of this group so that we may judge their merit.

Mrs. Hobart L. Morris, Utica

● *The Association for the Protection of the Adirondacks, the New York State Conservation Council, the Friends of the Forest Preserve, the Campfire Club. And at these meetings, representatives of other interested organizations were present.—Editor*

CATS AND CATS

Gentlemen: Contrary to Mr. Thomas' belief that all cats should be "dead cats" (page 39, Feb.-March)—I would suggest that we concentrate on the two legged species who kill every living thing in the woods, just for the pleasure of killing. We must remember that cats kill many rats and mice—which I believe would far over balance any wild life they might destroy.

I am one of the *simple souls* who loves cats as well as all wild life!

W. E. Chamberlain, Indian Lake

Dear Editor: Mr. H. W. Thomas, Jr., who asks for legislation "encouraging dead cats all over the place," would soon regret having that wish granted. Hasn't he heard about England?

During the last war, most of England's cats were destroyed. After the war she appealed desperately to us to ship her cats to replace those she had lost. Why? Because she was being literally eaten alive by rats and other rodents.

I have learned from bitter experience that on farms, where hay is stored and a certain amount of grain inevitably spilled, it is impossible to control the rat population except by the encouragement of predators—which means cats, skunks and (running a poor third) raccoons. Sure, there are any number of poisons on the market. Try using 'em. First you discover that, along with the rats, you are killing a lot of animals you'd rather not destroy: Squirrels, skunks, raccoons—the lovely and comparatively harmless flying squirrel being high on the casualty list. If you're thorough enough you might even get rid of your neighbor's dog, a few birds and maybe some rabbits. Then you find out rats are canny creatures. After a certain number of deaths in the family, they get wise to your little game and avoid your poison like poison. So you end up by killing everything but the rats. Then, if you're wise, you throw the poison away and get yourself a couple of cats.

Era Zistel, Haines Falls

CATCHING GRASSHOPPERS

Dear Sir: I have been informed that grasshoppers and crickets make excellent bass bait. I have never had much success in catching them and am writing you hoping you can suggest some practical means of doing so. I am enclosing a stamped, self-addressed envelope to facilitate your reply.

Joseph M. Tacci, Rochester

● *Take a woolen blanket and spread it out on the grass where these insects are operating. Then beat around in the grass. The grasshoppers that land in the blanket will get their feet caught in the nap.—Editor*

RUMORS

Dear Editor: Is there any truth in the story that you are closing the Lewey Lake campsite in order to create a fish preserve?

Rodney J. Matuszak, Schenectady

● *Absolutely no. But we'd sure like to know how such rumors get started.—Editor*

BURNSIDE CARBINE

Dear Editor: In a recent edition of *The Conservationist* Larry Koller described a cartridge for the Burnside Carbine. I was greatly interested in this article because for years I have had a gun which was given to me by an old friend of my grandfather. I have often wondered about this gun and the type of cartridge used in it. On the plate marked in the photograph are the words—Burnside Patent, Model of 1864, No. 18676.

Bill Morse, Beacon

CLOSING THE WOODS

Dear Editor: The Governor's Proclamation closing the hunting season was very confusing to a lot of hunters. I believe it was worded midnight Sunday night, November 2. I believe that to have avoided the confusion it should have read 12:01 a.m. Sunday morning—or to avoid a wrong interpretation of even this, a definite time such as 7 a.m. Sunday could have been set. The State Police were confused, and so was everybody else.

George Gardner, Wellsville

● *It seems you've got a good point.—Editor*

WILDLIFE FOR CANOEISTS

Dear Sir: While paddling the Old Forge canoe trip last summer with a group of Girl Scouts from Orange, New Jersey, I had two very remarkable experiences with wild animals.

The first time came while crossing a carry on the Raquette River when a huge buck suddenly barged across in front of us. Thinking that the field from which he had just come might be a feeding ground for others, we ventured cautiously on—only to spot a deer presumably sleeping. On moving in closer, we discovered he had caught his head in a stump and was dead. Apparently he had nosed into the center of the stump and, upon retreating, his hind legs had slipped in the mud surrounding the stump and his antlers had snapped against a fork in the stump, breaking both his neck and two hind legs. We called over a nearby guide who said the deer had been dead only a few hours.

A few days later on Upper Saranac, while paddling the west shore of the Narrows, we spotted what we first believed to be a dog swimming toward us, about midway in the channel. Thinking we might be of some help, we paddled over—only to discover our "dog" was a huge black bear, snorting, growling and splashing along. We circled him several times in order to take some shots (with a camera of course) the best of which I have enclosed.

Our trip took us a nice slow ten days, early in July, with not one drop of rain. My thanks to Mr. Petty of Saranac Lake for his he'p in the planning of our trip, and to the Conservation Department for making such trips possible.

Marilyn Jesmain, Orange, N. J.

THE STERLING BLOCK

Dear Sirs: My wife, who has just returned from a visit to the United States, brought back with her several copies of your book *The Conservationist*, and I cannot tell you how very pleased I was to read them. So much so that I would like to be able to have them regularly as and when they are published. But (you are as much aware of it as I am) it is not possible for me to send you the necessary dollar as we in this country are not able to get them. So perhaps you have a London agent to whom I could pay the money. Will you be good enough to let me know please?

Harold V. Jones, Winton,
Bournemouth Hants, England

● *Sorry, but we can't think of any way to help you out—much as we would like to.—Editor*

BEAR NESTS

Gentlemen: About the time the Feb.-Mar. issue came out, I was going to send to you the enclosed picture of a "Bear Nest" which I took last fall. Arnold Sayer of Dekalb Junction told me what it was, and I didn't remember having seen one before. Then you came out with the answer before I had sent you the picture with the question. So I'm sending it anyway; taken near St. Regis Falls on the Stony Brook Club.

J. D. Bulger, Ithaca

RAW FURS

Dear Editor: In an issue some time ago of *The Conservationist* the following question was asked: "The law states that a furbearing animal shall not be sold with hide attached to the carcass. Why is that law in existence?" Your answer was: "The law was promulgated by the fur buyers to protect themselves against purchasing hides full of holes."

Our association, by unanimous vote, feels that a broader and more accurate explanation should be printed in your splendid magazine. Will you please do this? As we understand it, this magazine is to help educate the sportsmen (hunter, fishermen and trappers) of this State, so we feel that this explanation is in order.

Our Association did sponsor this law a number of years back and feels that it has been a very successful law—and still is. In the first place, why should a buyer or dealer skin the animal that the trapper catches? If the trapper is a real sportsman he will want to skin and prepare his catch for market in the best possible way. Just catching the furbearers in traps is not our idea of a real trapper. He should be proud to have a pelt well taken care of when he presents it for sale. In this way he will realize the most money and pleasure from his efforts.

Secondly, just before this law was enacted, an Avon, New York fur dealer died as a result of skinning a muskrat and getting an infection from so doing. No doubt this muskrat had been left too long before being offered for sale and was partly spoiled.

Thirdly, no one wants half rotten skins. Much of this fur when purchased, while attached to the carcass of the animal, would turn out to be worthless because of the fact that it had been frozen and thawed numerous times before reaching the dealer. Unscrupulous trappers would bring these animals to the dealers frozen solid and state that they had just caught them a few days previous. We all know what a cabbage is like after numerous freezings; a valuable pelt can be rendered worthless in the same way. This law helps people be more honest, when obeyed by both trappers and dealers. It also teaches our young trappers the right way to handle their furs and to shoulder the responsibility of marketing well handled pelts that dealers and manufacturers like to buy.

Chas. W. Sage, Secretary-Treasurer,
The Raw Fur Dealers' Association

BIRD BANDING

Dear Editor: I have found an extra large blackbird with a tag on its foot. I have tried other sources but they have failed to give me any information. Could you please help me on this. The tag was in this manner—F & W Service
4 303816
8

Could you be kind enough to help me find out where this bird came from, and what about the tag.

Anthony Lamonaca, Brooklyn

● *A band of the federal Fish and Wildlife Service. For information about it, write to Mr. Seth Low, Patuxent Research Refuge, Laurel, Maryland.—Editor*

STARTING FOREST FIRES

Dear Editor: A few weeks ago two friends and myself went up to the forest watch tower south of Corinth (Spruce Mountain) and we were talking about forest fires. At that time a kid from Saratoga High School was in the tower relieving the Ranger. We were saying how easy forest fires were started by cigarettes, pipe ashes, etc. He then told us that they tried starting forest fires with cigarettes for experimental purposes and that they couldn't start one—even when the forest was very dry. The kid told us he thinks that fires from smokers is mostly a lot of bunk.

Now just what kind of woodsmen are they supposed to be? Giving out propaganda which might make some smoker lax in his fire preventive habits. A greenhorn hearing this would say, well if that's true I won't have to worry where I throw my lighted butts. Then up springs a new forest fire.

Francis Buff, Watervliet

● *All we can say is: That substitute observer should never have been in the tower. We've got plenty of evidence that cigarettes and other smoking materials can and do start forest fires.—Editor.*

THE HUNTING PROBLEM

Gentlemen: Your excellent article "Problems in Free Public Hunting" was the clearest, most specific thing the writer has ever read on this subject.

I was particularly interested in your proposed legislation. It has been an unfortunate (perhaps) habit of mine to stop in sporting goods stores all over the central and northern part of the State, and I have frequently seen licenses being issued to total strangers with no questions asked. It would seem that, until a central agency could be set up for licensing, all this work could be put into the hands of town clerks and justices who, as public employees, would be inclined or requested to ask for driving license or other reliable identification before issuing a license.

Also, a recording of violations could be added to our present license with no great additional cost.

	Violations	1	2	3
Regular license	Fish under legal limit			
	Fishing out of season			
	Hunting out of season			
	Lack of large game license			
	Trespassing			

These could be punched with a punch set-up, with Game Protector's initials or other special identification as required.

Also, we should be able to purchase an aluminum and plastic front frame for our license such as Quebec uses. Then one could see it displayed and the license would not be worn out in one's wallet or in a damp shirt pocket. These frames cost ten cents in Canada, but could be larger.

And I hope that the trespassing laws can be made more effective, for when one approaches a violator who gives one nothing but insolence it seems odd that he cannot be compelled to leave the private or posted area.

One more item: Why can't barbless hooks be insisted on in State stocked streams? It would seem that small fish could be released with a better chance of survival. Also hope that more streams will be limited to fly fishing, but with alternate "worm slugging" areas. Though I rarely use worms, some of the chaps who do are very skilled in their field and besides catching big browns, catch large suckers and other rough fish that flys won't touch.

Gordon Bell, Cazenovia

FOREST FIRES

Dear Mr. Duryea: I am submitting this poem for whatever use you may find for it. I composed it one Saturday afternoon after Conservation Class. I was thinking how destructive forest fires are, so I composed this little poem encouraging their prevention:

Forest fires should be few,
But they aren't, because of you.
At least one tree burns every minute
There is money burning in it.
Trees help make a mountain scene,
To destroy them would be mean
Help prevent our forests from burning
And a better life you will be earning.

Thank you for taking your time and reading this.

Joanne Vinson (age 10), Schenectady

TO AND FROM KOREA

Dear Sir: I am enclosing a letter from my son who is in Korea with the 101st Signal Battalion. I am sending him all the copies of *The Conservationist* I have. Perhaps some of your subscribers have old copies which they might send to these boys. I think you have mentioned forwarding the magazine to servicemen, but a repeat suggestion may be in order.

Adolph Frankl, New York City

Before I forget again. Have you any old issues of the New York Conservation magazine? If you do, I would certainly like to get my hands on them. I'm always in an argument with these farmers here, who can't picture New York State having anything but cities, Broadway and slums. They concede that it would be possible to have deep-sea fishing but no sweet water fishing. The same thing goes for game.—Bob (Frankl)

MAYBE THEY'RE RAVENS

Dear Sir: I read in the Feb.-Mar. issue of your magazine the answer to a letter from a Mr. C. B. Olds, Waddington, N. Y. in regard to birds seen near St. Regis Falls, N. Y.

I have seen and heard these birds on several occasions, both in the fall and while beaver trapping in February. They are not eagles, as I have seen eagles both young and old. My convictions are that they are either the raven, or the rok or rook of the Far North.

Our camp is about 1½ miles S.E. of Lake Ozonia on the Brooklyn Cooperage R. R. spur. Have been unable to get a photograph of these birds either in flight or while perched on a dead lodge pole pine. I enjoy the magazine very much; it is something that has been needed for years.

Don Converse, Dannemora

Sir: Regarding inquiry of C. B. Olds (Feb.-Mar.) Eagle? This bird would be no other than a Northern Raven—come down to pay us a visit. Wouldn't it be surprising to see any eagle "darting thru the hardwoods with slow moving wings —uttering raucous cries".

W. H. Nautel, Rouses Point

ABOUT LAKES AND WOMEN

Dear Editor: The answer to Art Hutt's query about that lake "you-fish-on-your-side, I'll-fish-on-my-side and nobody-fish-in-the-middle" is simply this: Chargogogogmanchaugogogchaubunagungamaug, after the old Indian word of the same meaning. My good wife supplied the above information. Ain't it just like a woman to remember a name like that and then forget where the lake is?

Bill Rodihan, Syracuse

MEN AND BEARS

Dear Nick (Drahos): You mentioned that there was "no record of a bear dying of exposure," (Oct.-Nov. 1952). This may be true in N.Y.S., but in certain areas where men and bears meet, it does happen. The naturalist at Yellowstone National Park told me that they have found dead bears in winter or early spring, and examination has shown that death was largely due to pneumonia or infection because of poor health. This state of poor health results from the fact that despite regulations, signs, warnings, lectures, and accidents, park visitors continue to feed the bears. In late summer and fall, when the bears in the wild are feeding as instinct directs, in preparation for the winter sleep, the mooching bears are not getting the food they need to store up in their bodies. Cookies, sandwiches, and all manner of man-food just don't do the job. The result is that the bears so ill prepared for winter may awake, go in search of food, and, not finding it, die of pulmonary diseases or other causes brought on by malnutrition. It's an interesting point, and a constant problem for the Park Service personnel.

Will Clark, Ithaca

ONE SURVEYOR TO ANOTHER

Dear Mr. King: Having just finished reading the latest issue of The New York State Conservationist magazine, I wish to take this opportunity to thank you for writing such an interesting description of your surveying work in the Conservation Department.

Being engaged in retracing section lines on the Clackamas Tree Farm for the Crown Zellerbach Corp., I have encountered many of the surveying problems which you described and have often wondered how the very old lines in the eastern States could be retraced and the described monuments found.

When the original land surveys were made in this state after 1850, surveyors used timber scribes with which to mark the bearing trees and in that way made the identification more certain —if one could still find the trees.

Willis G. Corbitt, Molalla, Oregon

SUMAC

Gentlemen: In conservation class at the Tri-Valley School, Sullivan County, Town of Neversink, the other day I was reading the reprint No. 67 from *The Conservationist* entitled "The Sumac." In the first column I was surprised to learn that the biggest staghorn sumac that you have on record was found in northern Columbia County and was six inches in diameter and twenty feet tall. At home we had one staghorn sumac which was between six and eight inches in diameter and fourteen to eighteen feet high. Other members of the class have also observed staghorn sumac over six inches in diameter.

Franklin D. Smith, Lackawack

NO MORE STOCKING

Dear Editor: I understand the policy as stated in your magazine is not to stock streams and lakes posted by property owners.

I saw where a number of walleyed pike were stocked in Galway Lake near Schenectady. This was State stocking. However, this same lake is posted during winter months—and not by the State, as I asked the Game Warden in Schenectady.

The lake is highly overpopulated with pan fish and pickerel and ice fishing would do it no harm. However, the campers' associations very nicely are keeping a lake for their own summer fishing and at the taxpayers' and State's expense.

Jack W. Hoffman, Schenectady

● *As a result of your letter (which was referred by the Editor to me) we have been inquiring into the posting situation at Galway Reservoir. A thorough investigation reveals that the information we received from you is quite correct. In fact, not only is ice-fishing reported to be effectively discouraged there by the cottagers and other local interests, but summer fishing also is somewhat restricted.*

In order for a pond or lake to be classed as open to public fishing, and eligible to receive stocking by this Department, it must be possible for a fisherman to park without charge and to fish if he chooses, by wading or by launching his own boat, also without charge. According to our information, this extent of freedom is not allowed the fisherman at Galway Lake. We are therefore listing this lake as posted.

This investigation was carried out because of inquiries by yourself and two other persons. We appreciate your interest in this matter.—C. W. Greene

GOING ON WATCH

Dear Editor: I though that you would like this picture that I am sending along.

George Rooney, Waterloo

CREDITS

Second cover, P. W. Fosburgh; pages 2, 3, 4, C. W. Severinghaus, R. W. Darrow, E. L. Cheatum; 5. Severinghaus; 6, Daily Mirror; 8, 9, Beatrice Grover; 10, Bob Zilliox; 11, 13, Nick Drahos; 14, Willard Stewart, Inc.; 16, Al. Davis; 17, Jerry Rider; 18, Robert A. Reed; 19, J. D. Bulger, W. C. Dilger; 20, 21, 22, 23, Fosburgh, U. B. Stone, Dave Cook, Doug. Finch; 26, Scotty Little; 27, Wm. S. Gere, John Johnson, Jr.; 29, Jack Abrams, John Helliwell; 30, K. T. Dempster, Barney Fowler; 31, 39, David G. Allen; 32, Fynmore Studio; 40, Fred. Chambers.

EASY SLEDDING

Dear Editor: After seeing the picture showing how Robert Evans carries his daughter up the mountain, I thought you might be interested in our winter mode of travel.

This is a picture of our son, Jason, who was born in May, 1952. Since my husband is reservoir tender on Woodhull Lake, it is necessary for us to walk about three miles on the ice to arrive at the statehouse.

My husband tied a large cardboard box to the toboggan and usually Jason sleeps in this during the entire trip. The sled in the foreground has skiis attached to the runners. May I add that we find your magazine very interesting?

Mrs. Floyd Van Slyke, Thendara

BOY OF 15

Dear Editor: Here in Sherrill there is a good size mill pond which belongs to Oneida Ltd. There are quite a few ducks in this pond. These mallards stay here all year around and are quite domesticated. Every so often they come out of the pond and walk across the streets or through the parking lots. Most of the people here enjoy feeding and watching them, but every so often some wise guy from out of town will drive by and run over one just for the fun of it.

I am only a boy of 15 and can't do much about these "killers." I like to study and read about the conservation of fish and wildlife and I would like to see these wise guys punished for this crime. To me this is just as much a traffic violation as speeding. I wish someone could do something about it.

Robert Krone, Sherrill

DO WE GO TO BALSAM?

Dear Mr. Littlefield: Re your "Where do we go from here" in the last issue of *The Conservationist*, might I make a suggestion? Most people like to be paid for time spent, and if Reforestation could be made profitable before your great-grand children arrive, you would have lots of people setting out "Little Trees."

Here is the suggestion: Have the Conservation Dept. advocate the planting of balsam seedlings or transplants in the ratio of one-to-one or one-to-two pine or spruce transplants. Then when these trees are 5 to 8 feet high, they can be sold as Christmas trees @ $.75 to $1 each (on the hoof). And the planter gets big returns early, while helping the growth of the balance of the pine and spruce stand.

I've planted some 80 thousand State trees at my place in Hillsdale, Columbia Co. and estimate there should be 50 M standing, but I'll not live to profit on same (though of course some one will). NOW I wish I had set out every other tree with a future Christmas tree, and I'd be able to cut $1,500 - $2,000 a year now, and for 7 or 8 years! And still have a fine stand of red and white pine and Norway spruce for future generations.

I really believe this is fine bet for "Where to go from here." If you can supply the Balsam seedlings!

Robert E. Carrick, Larchmont

● *The idea of planting a Christmas tree species in mixture with more permanent species (such as pine) has some merits, and as you say, furnishes an early cash crop while the other trees are growing to maturity. We have a number of instances where plantation mixtures of this sort have been successful, though from a practical standpoint, alternate rows or bands are apt to work out better than "every other tree." The danger in this latter scheme is that the faster growing species may over-top the Christmas trees so rapidly that they never have a chance to develop even to Christmas tree size. As regards balsam itself, our experience has not been so good. Of course, balsam is about the world's best Christmas tree and seems to reproduce without any trouble in the Adirondacks and Catskills, but it is a fussy tree to handle artifically. It grows slowly in the nursery and when planted in the field, the mortality is usually high, and in some cases the plantation does not go ahead at all. The ideal site, in fact the only site where balsam is likely to succeed is on a moist but well drained slope where it is well protected from drying winds and where the soil does not dry out completely in the average summer. Thus, the possibilities for planting the species are rather limited, and we accordingly produce only a small quantity in the nursery, to be planted where our foresters can advise the landowner personally with regard to the site.*

Douglas fir is another species that makes an excellent Christmas tree, but like the balsam it is fussy, although in a different way. Douglas fir must be planted either on a hilltop or the upper part of a slope where there is a minimum danger from spring frost as well as good soil drainage. We have had both good and poor results with this species and sometimes it is hard to diagnose the factors which were responsible either for failure or success.

Our best all around Christmas tree is white spruce—which is quite adaptable as to site and makes a handsome tree of compact form at an early age. I note in looking over our records of your tree planting that you set out some white spruce in 1932, and I am wondering how these have done. I note also that you have planted a good many Norway spruce but if your experience is typical, a good many of these may have grown so rapidly after once getting established, that they did not develop as good a form for Christmas trees as the white spruce.

—E. W. Littlefield

DUCKING

Dear Sirs: Wish you would go to work on the Federal Fish & Wildlife Service crowd on this hour-before-sunset closing time. We here are dependent on tides (8'-6" to 11'-0" rise) and particularly on high winds and tough cold weather; in the past season there have been only 3 days on which anybody but some of these drug store gunners would think of going duck shooting.

We have had a storm, snow, raw and high winds since Friday, January 9th, and yesterday I counted 191 geese and about 5,000 black ducks along my shore. However they did not come in until about 4 o'clock p.m.

There have not been 100 blacks (no geese killed) in the whole area this season due entirely to weather, tides and closing time—it seems to me the F. & W. Service just wants to make a zoo out of the U. S.

Harry C. Burns, So. Duxbury, Mass.

● *According to reports from all along the Atlantic flyway, waterfowl hunting conditions were generally (and abnormally) poor this past season, due mainly to the weather. We can't blame the Fish and Wildlife Service for that.—Editor*

THE FATE OF TREES

Dear Editor: Could you say that there is a chance of the chestnut trees coming back? Also, what about the elm trees? And I hear that in some parts of the country some sort of blight has struck the oaks. What next? The pines, maples, hemlocks and beeches?

Karl A. Parshall, M. D., Brooklyn

● *As to the chestnut tree, I enclose reprints of several articles on the subject that appeared in this magazine. As to the blight on oak which you have heard about, it is undoubtedly the oak wilt disease—which is quite prevalent in the mid-West and has been observed as far East as Pennsylvania, but is not yet known to occur in New York. This is a fungus disease which affects the vascular system and thus spreads rapidly throughout the tissues. Its means of spread up to now is somewhat obscure, although the possibility of an insect vector is, I believe, being investigated.*

Yes, there seems to be some sort of pest for just about every native tree we have, but in the case of some of them, natural controls appear to set a limit on the amount of damage they cause, while with others (such as the white pine blister rust and gypsy moth) control measures have been well enough developed so that the pest can either be controlled locally, or contained within a specified area.—E. W. Littlefield

DON'T PLAY WITH FIRE

Dear Sir: Those who enter the woods for recreation are often admonished to be doubly sure that their fires are out before they leave them. This is surely good advice, but the writer of this letter believes that care should begin before a fire is kindled. With a friend he often goes into the Adirondacks to follow one or the other branch of the Bouquet or, perhaps, to search out with map and compass some little pond hidden away in the wilderness. Often the Black Duck Hole in Cranberry Lake is "the call of the wild." Wherever we go certain precautions are observed. Avoiding a windy place, we make a fire only large enough to boil the coffee and fry the bacon, and we build it on ground that cannot burn, and not far from water. Favorite spots are among the rocks at the edge of a pond, a sandy beach on the shore of an island or in that part of a stream bed that is covered only at high water. A fire has been made over the water of a swamp by placing some sticks across the hummocks and, on one occasion (just before the Governor closed the woods last fall a little fire of dead pine twigs was built on larger pieces which were supported on stones standing in shallow water. When it was extinguished, these larger pieces were placed under water and fastened down with heavy stones so that the current could not carry them away.

Of course one never builds a big smoky fire unless he is lost and wishes to attract attention, and map and compass should make this unnecessary. I enjoy the letters as well as the longer articles that appear in your columns, and I must confess to some surprise that *The Conservationist* reaches so many far away places.

William H. Barker, Waterford

EVERYTHING'S RED

Dear Sir: During the first part of November we emptied our goldfish pool and found only four young fish, about one inch long, all dead. Last spring we had placed 15 goldfish in the pool, ranging from three to seven inches in length. These were fish which we had kept for several years.

In former years we have suffered periodic depredations by housecats, but not to this extent, and none had visited us lately. The evening before we emptied the pool I was in the yard and saw a bird fly from the pool and light nearby in our catalpa tree. I grabbed a flashlight and shined it on a screech owl—of the Red Phase.

The evening of the day that we emptied the pool, the owl was seen twice in the yard. At first we thought that the bird was there for a drink, but now we can REDily see why it was there and why there is a Red Phase in the screech owl family (August-September issue). We have had this pool at least 15 years but have never had this reddening experience before.

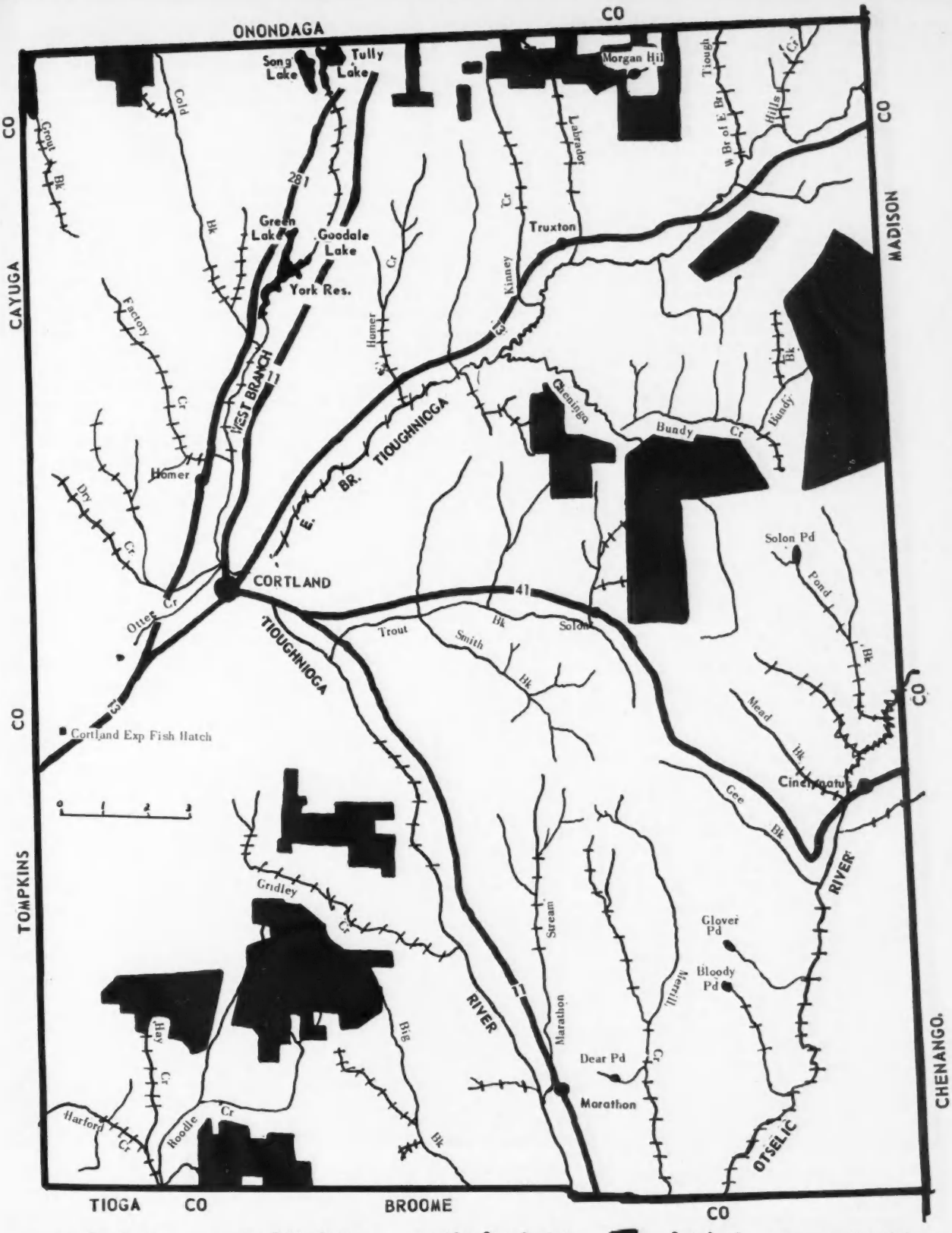
Albert A. Acker, Valley Falls

SAWDUST

Dears Sirs: Do you have any advice to give about getting rid of sawdust piles without spending a fortune? The one I am interested in is about 40 feet high, much wider in diameter, and is unfortunately mixed hardwood and softwood, a good bit of it pine. I shall be grateful for any help that you can give.

Mrs. J. K. Henney, Garden City

● *If just left alone, sawdust piles seem to endure forever. However, sawdust has at least two uses—as bedding in stock farms, and as mulch in truck gardening. I suggest you try to interest some of the local dairy farmers and truck gardeners in removing your sawdust pile for these purposes.—David B. Cook*



county of cortland

FUR—FROM HOOF TO HELEN

THE prime pelt of a mink may go through so many operators and operations on its way from the hoof to Helen that it's a wonder the thing has any fur left at all. But it does. In fact, it winds up with about 2,000 individual and very firmly imbedded fur fibers per square inch.

How it gets to be something swooney involves one of the world's most complex—and often the most mysterious—industrial and business processes. The following brief account traces this process only in general. But it should serve to make more understandable the vast differential in price between what the trapper gets and what Helen (or Harry) pays.

1. Trapper (or fur farmer) harvests the animal which he (2) skins, does preliminary scraping, (3) mounts on drying board, skin side out and (4) stores in cool place to await (5) sale to buyer of one kind or another who in turn (6) resells to larger buyer, manufacturer or exporter or consigns to auction house. (7) Pelts next find way to processing specialist. (8) There pelt ownership is established by stamping or punching and (9) it is put on a beam and scraped with dull knife to remove fat. Next (10) the pelt is soaked in salty water for several hours and (11) hydro-extracted.

(12) Expert and long-apprenticed fleshers next draw pelt across razor-sharp bench knife to remove all membranes covering the skin fibers. (13) The pelt is then immersed in tanning bath for partial conversion into leather. Most New York pelts are put in pickle of alum, salt and sulphuric acid. (14) The pelt is dried by special warm air-circulated processes. When dry, the skin is somewhat stiff and is only partly protected against decay. So it must be "bathed," "kicked" and "trampled" to convert into soft leather.

(15) Bathing requires applications of various vegetable, animal and mineral oils and greases in different combinations according to the pelt qualities. By long experience, the "dresser" determines proper formula and applies it to skin by hand-brushing. (16) The oil-softened pelt is then "pummelled" in the "kicker" machine which forces the oils into the skin fibers. The friction of the operation also warms the oils and fuses them chemically with the fur fibers.

(17) "Trampling" in sawdust then removes excess oils and greases on fur and skin surfaces. The apparatus consists of huge drum (usually containing fine maple sawdust) which revolves once every couple of seconds for an hour or so per load of furs. (18) The pelt is then placed in another revolving drum faced with coarse wire screen through which sawdust falls from tumbling fur.

(19) Where matted fur clumps occur, they are removed by hand-applied solvents and by careful combing. (20) Beating machines equipped with rollers which flail either leather or rattan whips against fur finally are used like vacuum cleaners to remove last dust vestiges. (21) At this point operators skilled by long experience sort pelt to determine whether it should be dyed or remain natural. Such pelts as the fisher and mink may be sorted for dye "tipping" but most New York pelts, being of good color, are left natural. Others, like foxes and muskrats, may be sorted for vat saturation dyeing.

(22) The pelt first is immersed in alkaline bath to remove dye-resistant processing oils. This bath usually contains sodium carbonate but ammonia or even weak caustic soda may be used, depending on kind of fur. This, like all dye processes, is extremely ticklish and requires skillful control. (23) After about two hours in this "killing" bath the dressing oils can be washed out easily and (24) the pelt is rinsed in fresh water. (25) Rinsing in neutralizing bath (usually weak acetic acid) comes next to offset reaction of alkali in the hair. (26) Another fresh water rinse clears out neutralizer and (27) hydro-extraction leaves pelts damp and ready for (28) the Mordanting process. This is necessary to overcome surface resistance of fur to dye so that it will not wash out later. Dyed permanence is further assured by carefully steeping the pelt several hours in even covering of dilute solution of salts, usually iron sulphate, combined with acetic or sulphuric acid fixer.

(29) The pelt is next removed and left moist for several hours to complete Mordanting process. It is then dried and is ready for dyeing process. (30) The operations here often are extremely complex and may vary greatly according to individual pelt. In some cases, pelt is merely tipped or blended by successive light brushings or "feathering" of the longer guard hairs. But more often pelt is saturated by immersion or by application of several coats of dye to fur by hand. The dye bath usually is combination of vegetable dyes (made from woods or galls) or mixture of analines—the phenols and toluyls obtained from petroleum. The common dip method requires repeated immersion for 12-hour periods (with complete drying in between) in mechanically agitated vats until the desired shade is obtained.

(31) Next the pelt is thoroughly oxidized in a bath of hydrogen peroxide or other agents to set dye permanently. (32) The pelt is dried once again and (33) additional sawdust drummings remove all vestiges of dye particles. (34) The pelt is then again sorted for size, quality, type of use (coats, scarfs, trimmings, etc.) and matched in lots for color. (35) It then moves to manufacturing specialist.

(36) Here highly trained cutters dampen, stretch and tack skins and remove all damaged portions by drawing "tongues" through them. The operation is known as "damaging out." (37) The skin is next shaped along with others for its particular use. For garments, the pelt is "let-in", or "let-out". This is accomplished by an intricate series of cuts (as many as 70 for one mink pelt) which either eventually make the skin shorter and wider or longer and narrower (let-out). (38) The cut skins then go to skilled artisans called "operators" who sew the often tiny pieces together by machine. (39) The sewed skins are assembled into the garment and given to (40) the "nailer" who dampens skins and secures them with hundreds of small brads to a chalked pattern on a flat surface. (41) The skins are then allowed to dry thoroughly.

(42) The potential coat is then "squared off" by removing nails and trimming edges to exact pattern outline. (43) Separate parts like sleeves, cuffs and collars are returned with main skins to "operator" for final assembling or "closing the coat". (44) Linings and other "findings" next are added and the finished garment finally is (45) glazed, an operation involving heat to draw out fur's natural oils.

(46) The garment then goes either to a broker who buys at a lower cost and holds for selling to a retailer in the fall buying season—or direct to the retailer.

(47) The retailer then prepares to sell them to the consumer (who pays a 20 per cent excise tax). But first the retailer must make certain that the actual common name of the fur and a statement as to whether it is dyed (or otherwise processed) or natural, plus the name of the country from which the skin originated, is attached by label to the garment.

So now you know what you get and, maybe, a little bit about how it got thataway. —CLAYT SEAGEARS

Here's how a mink pelt is "let-out." Above is a slightly enlarged section of a finished pelt (a ranch-reared platinum mutation). After completion, the pelt was nearly twice as long and only half as wide as the original uncut skin. The staggered line (1) once was a mark made by the cutter straight across the skin as a guide to match the pelt's shoulder pattern. Note how strips (C) were cut from strips (B), dropped down as indicated by the interrupted line, and sewed together.

This pelt was assembled from 74 oppositely matching pieces cut from the natural skin. The process permits the streamlining of pelts to meet fashion demands. Only skilled specialists—a "cutter" and an "operator"—can do the unbelievably intricate work involved.

Courtesy
N. Y. S. Museum

PASSENGER PIGEON
Ectopistes migratorius
(Linnaeus)
Young, male, female

(See Page 11)

MOURNING DOVE
Zanaidura macroura
carolinensis
(Linnaeus)
Female, young, male

All 1/3 nat. size

m

IGEON
ratorius

female

DOVE
acroura

, male

ize